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Frontispiece—Example of Grouping

MODERN LETTERING
ARTISTIC AND PRACTICAL

A THOROUGH AND PRACTICAL TEXT-BOOK FOR USE IN
Schools and Colleges and for the Self-Instruction of Architects, Artists, Decorators and Sign Writers

THE CONSTRUCTION OF PEN AND INK DESIGNS FOR COMMERCIAL USES:
Advertisements, Letter Heads, Business Cards, Inscriptions, Memorials, Resolutions, etc.

By WILLIAM HEYNY

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With Forty-two Plates *Drawings by the Author*

SECOND EDITION—REVISED AND ENLARGED

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PREFACE

A number of books have been written on LETTERING. Several new works of this kind, containing some very good features, were published recently. That most of these books, from a practical standpoint, are worse than useless, is a well-known and deplorable fact. In constructing the letters of the alphabets, the designer has too often departed far from the original outlines, thus misleading young students of lettering. Letters and numerals designed for the use of architects, on plans and specifications, are likewise inadequate for the purpose, being either stiff and ill-spaced, lacking in beauty, or too highly embellished. Too many scrolls and flourishes make it difficult to decipher a letter easily, which is a grave fault, as legibility ought to be the artist's first consideration. Only plain letters, that can be quickly made and easily read, should be used by architects. Engineers and builders with them have no trouble in making out their meaning, and are not nearly so liable to make mistakes.

One branch of the art of lettering, in particular, has received but scant attention: the designing of attractive advertisements is virtually a class in itself. It constitutes a special field, and a most interesting and remunerative one.

In the following pages the author has endeavored to supply such information on the subject as has been gained by many years of experience in this line. Practical suggestions are given, simple methods employed. The difference between correct and faulty styles of letters, good and poor spacing, harmonious and bad grouping of words and phrases is shown by artistic examples. The result aimed at is the construction of plain and neat designs, of novel, individual ideas in advertisements, lettering of quality, instead of the stiff, monotonous types and faulty spacing as generally employed, or exaggerated styles, that cannot be read.

The printer is limited to the use of existing types; the designer of letters is bound only by the limits of his own imagination. If his creative or inventive powers be boundless, he should be wise enough not to let his fancy lead him to extremes. Aim for beauty rather than striking or crying effects.

In no department of the graphic arts is good taste being sinned against so frequently and persistently as in the art of lettering. At almost every step we are offended by coarse violations of the art; and this is true not only of commercial lettering, but also of architectural inscriptions and those of memorial tablets, claimed to represent masterpieces, and intended to impress future generations.

Doubtless one of the causes of this lamentable lack of judgment is the fact that certain authors of books on mechanical drawing do not realize the importance of good lettering, and treat the subject as a side issue only. The results are mathematically correct but, consequently, stiff, awkward letters, drawn with painstaking care, but devoid of harmony and beauty. The other extreme is as bad, if not worse. We are drifting into a craze for "fancy," "snappy" lettering called by representatives of this school "modern." While sometimes executed with no little skill, this style of lettering is of no practical value, because the average person cannot read it without difficulty. More artistic ability is required to construct a plain letter correctly than to create a most phantastic "modern" hieroglyphic, but it demands study and practice to cultivate the taste necessary to produce the former.

This book does not merely present a collection of alphabets and designs, but may be considered a guide into the realms of letterdom. The construction of letters is taught by a system of easy lessons, and rules are laid down for the proportions and spacing of the different characters, in their relations to each other. At every stage of the development practical examples are given. From step to step the text is accompanied by illustrations, explaining important good points and also mistakes to be avoided.

Good letterers are exceedingly scarce, and there is a growing demand for competent exponents of the art. Keen competition of tradespeople has brought about in recent years a marvelous display of posters, signs and labels, and an extraordinary mass of advertising matter in the newspapers and magazines. It is necessary now to make your "ad" stand out prominently among a hundred others. Thus the art of designing novel and conspicuous advertisements is becoming more important every day. It appeals to the creative talent of the artist. Correct, well spaced lettering is wanted. In addition to this the principal words of the subject matter must be distinctly brought out, so that the reader can see at a glance what the advertisement may offer. The producer is eager to sell his goods, and the advertisement must tell the story. Advertising is as essential as the merchant's display of goods. But the announcement should not flare out brutally, aggressively. The advertiser, when he lifts his voice, must not shout offensively, but should temper his language by artistic effects.

The young student of art or architecture also, who takes up the study of lettering seriously, will find in this method everything necessary to acquire proficiency, if he be but willing to do his part, by working out the problems and following the suggestions here offered.

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INTRODUCTION

"Lettering, the art of designing the letters of the alphabet, for various commercial, mechanical and artistic purposes, largely used in architectural work, sign painting, advertisement designing, engraving, printing and book-plate and book-cover making. It may be said that practically all the lettering now used in architectural offices in this country is derived, however remotely it may seem in some cases, from the old Roman capitals, as developed and defined during the period of the Italian Renaissance. Composition in lettering is almost too intangible to define by any rule. All the suggestions that may be given are of necessity laid out on merely mathematical formulae, and as such, are incapable of equaling the result that may be obtained by spacing and producing the effect solely from artistic experience and intuition. The final result should always be judged by its effect upon the eye, which must be trained, until it is susceptible to the slightest deviation from the perfect whole. It is more difficult to define what good composition is in lettering than in painting or any other of the more generally accepted arts, and it resolves itself back to the same problem. The eye must be trained by constant study of good and pleasing forms and proportions, until it appreciates instinctively almost intangible mistakes in spacing and arrangement. This point of "composition" is so important that a legend of most beautiful individual letter forms, badly placed, will not produce as pleasing an effect as an arrangement of more awkward letters, when their composition is good."—Americana.

"Lettering, the art of designing the letters of the alphabet."

The shaping and spacing of well proportioned, harmonious letters is an art. The pleasing effect of good lettering on the eye trained to beauty is not second to that of a fine painting, or the lines of classical architecture. The student of the art of lettering should aim at the highest standards only, to cultivate a taste for the beautiful.

"The letters used in our time are derived from the old Roman capitals."

Therefore, in beginning the study of the forms of letters, we should go back to this source.

"As developed and defined during the period of the Italian Renaissance," the letters of the Roman alphabet have since been somewhat modified. But in many instances letterers have departed so far from the originals, as to lose sight of the most beautiful features.

The unchanged original characters are seldom

used for any but architectural work. To the student of lettering, however, they afford an eternal standard of highest quality, and the earnest seeker of good forms should ever return to the beauties of their classic outlines.

The Modern Roman, French Roman and Antique Roman letters have been universally accepted. They are by far the most legible and most handsome styles of letters that can be employed on all occasions, where space admits of their use, without crowding. The neat appearance of a composition of several lines in Roman letters of different size, graded according to their importance, is evident even to the less cultivated eye.

"Composition in lettering is almost too intangible to define by any rule. All the suggestions that may be given are of necessity laid out on merely mathematical formulae and as such are incapable of equaling the result that may be obtained by spacing and producing the effect solely from artistic experience and intuition."

The eye should be trained to see. Of course, rules must be laid down for the beginner, in order to teach correct proportions. Later on these proportions will be arrived at instinctively, without employing any definite rule. The same is true of good spacing. This point of supreme importance is brought out by comparison. Balance your spaces. As each letter occupies different room in space, so the distances between the letters must of necessity be different. The study of the suggestions as to spacing, here given, the copying of examples as they occur and much practice work is excellent experience and leads to perfection.

"The eye must be trained by constant study of good and pleasing forms and proportions, until it appreciates instinctively almost intangible mistakes in spacing and arrangement."

The problem, concisely stated, is SPACING AND ARRANGEMENT. As the mind is educated and the mental understanding gradually developed, the manual skill will doubtless follow. The letters should be copied and recopied, until the proportions and outlines are understood and the ability to reproduce them is acquired. But the arrangement of a group of words, the composition and the spacing cannot be thus mastered. The student's eye can only be trained by degrees. As he advances in his chosen line of work, he will get at the meaning of the mysterious word "spacing" almost unconsciously. Once the lessons in spacing have been comprehended, the eye will unerringly detect any mistakes.

After having learned the lessons in this book, experience alone is requisite to more fully develop the ability to arrange letters pleasingly.

PART I—THE DRAWING MATERIALS

The Instruments and How to Use Them

The instruments and materials necessary for this course are as follows:—

Drawing board, T-square, Triangle, Set of drawing instruments, Lead pencils, Erasing and cleaning rubber, Thumb tacks, Writing pens and holder, Pencil pointer, India ink, Ink eraser, White water color, Set of brushes, Set of irregular curves, Flat rule, Sketching and drawing paper, Cross-section paper, Tracing paper or cloth, Transfer paper.

The Drawing Board should be of clear pine, with a cross-piece at each end, to prevent warping. Do not use one smaller than 18 by 24 inches, 20 by 26 would be better. The cost is about one dollar. Make sure the edges are perfect and sharp. Run your fingers along them and reject any board that feels rough or shows the least dent or projection. An accurate drawing cannot result unless the edge of the drawing board be perfectly true and even. The T-square is guided along the edges of the board, and should work freely and smoothly. In selecting a suitable drawing board, try a T-square on it to insure perfectly square corners. At least the bottom and left edges should be exactly square. Lay the T-square on the top of the working surface of the board, with the T-square head pressed against the edge and move along, up and down, until the blade of the T-square is even with the corresponding edge of the board. This may also be considered a test for the accuracy of the T-square. In use, the left and bottom edges of the drawing board are the "working," or "sliding" edges. The board is laid flat upon the table, or it may be raised slightly at the top. As you face your drawing board, the lines running from left to right are called horizontal, those from the top to bottom edge of the board, vertical lines. When, after long use, the drawing board becomes full of holes and uneven, it may the restored to usefulness by first cleaning and smoothening with sandpaper, and then glueing on a sheet of thin cardboard.

The T-square is laid across the drawing board, with its head resting against the edge. The blade must be long enough to reach over the whole of the board. Use a T-square with a fixed head and black rubber blade. It can be bought for about $1.50. The edge of the T-square must be absolutely straight and smooth, or else a correct drawing cannot be made. When drawing long vertical lines, rest the

head of the T-square against the lower edge of the drawing board, keeping it firmly pressed in position with the left hand. For horizontal lines it is held against the left edge of the board, as above described. Along this edge the head of the T-square is slid up or down, as the case may be, and all horizontal lines drawn from left to right, guided by the upper edge of the blade. For the short vertical lines, as they occur in lettering, the triangle is used. Never use the right hand to move the T-square. Do not guide a knife along the edge of the T-square or triangle when cutting. When not in use the T-square should hang safely against the wall. A hole is provided for this purpose at the end of the blade. Never stand it up or lean it against the wall or furniture, lest the blade become permanently bent, or warp out of shape. By resting it on the floor it is also liable to be stepped upon and injured or broken.

The Triangle or *Set Square* is used for lettering principally to draw the short vertical lines. It is laid on the drawing paper, above the T-square blade, resting on and pushed along its upper edge, as needed. Amber or Xylonite (transparent) triangles should be used in preference to the black rubber ones. You may observe your pencil lines and marks through them while working, and it is easier to keep them clean. Note, also, that you get them with bevels on the inner edges. These can be readily lifted with the finger nail, thus saving annoyance or accident. A 30° by 60° triangle, 6 inches long, can be bought for 40 cents. Do not use any so-called "lettering" triangles. In drawing vertical lines, the triangle is manipulated as follows: with the fingers of the left hand hold the head of the T-square in position, pressed against the left edge of the drawing board. With your right hand place the triangle above and resting against the upper edge of the T-square blade, so that the right angle of the triangle is to the left. Now move the fingers of your left hand along the T-square blade, pressing slightly to the right, while sliding towards the triangle. As you reach it, hold it with first and middle fingers, firmly pressing it down to the edge of the T-square blade, at the same time keeping hold of the T-square blade with thumb, fourth and fifth fingers, while drawing line with right hand. This seemingly difficult and awkward manipulation will become easier with constant practice. Run your eye along the edge of the T-square or triangle when drawing lines. Keep your pen or pencil inclined at the same angle from beginning to end of line. This is very important See that your arm and elbow are free to move an that there are no obstructions or tools, which migh hinder your movements, lying about your drawin board, before starting to draw the line. Lines ar nearly always drawn to the left of the triangle, th being the lighted side. While working thus wit the triangle try to encourage a habit of occasionall running your left hand to the head of the T-squar pressing it against the edge of the drawing board, assure correct position. Use your hands only, ar never resort to thumb tacks or weights to hold square or triangle in place.

The Drawing Instruments. In purchasing a set of drawing instruments the beginner should bear in mind that good materials are necessary to make a

good drawing. Most people labor under the mistaken idea that a cheap outfit will do to start with, and think it time enough to get better tools, when they shall have learned how to use them. A set of fine instruments is a good investment and can be used for all time. Learn to use them at the start, then you can acquire the ability to work with accuracy, which is of prime importance. If you cannot afford a full set of first class tools, it is a better plan to buy a few only at the start, say the compasses and ruling pen, and add bow spacers, dividers, etc., later on. See that your instruments are always clean and bright, and occasionally polish them up with chamois.

The Compasses are used for spacing, measuring and drawing circles and arcs. With the lengthening bar added, the largest curves can be made. Except for borders, this extension bar is rarely used for lettering. Circles up to 12 inches in diameter can be drawn without it. In purchasing compasses, see that you get one with movable or pivot knee joints and adjustable legs, also with interchangeable needle-point, pen- and pencil-points. One leg has a steel needle clamped to it. For drawing circles with pen or pencil the shouldered point of this needle should be used. When spacing or measuring, the other end of the needle is more appropriate. On the other leg of the compasses the steel point can be removed by loosening the clamping screw, and the pencil- or pen-point inserted. In doing this, note that the straight or inner side of pen is opposite the other leg, and the curved side faces outward. The pencil-point also has an outer and inner surface, and the thumb screw should always be on the outside. Be careful to push in pen- or pencil-point as far as it will go, and secure it with the clamping screw before using. It is important to always have the needle-point even with the pen- or pencil-point, so, after inserting pen- or pencil-attachment, close the instrument, and, loosening the clamping screw, set the needle-point to the length of the pen- or pencil-point, and clamp well. After each sharpening of pencil-lead always see that it is brought to correspond to the length of the shoulder of the needle-point. To draw a circle or curve, insert needle-point in exact center mark, to shoulder of needle, and push it straight down into the drawing board. Remove compasses and open them, setting the legs to the required radius, and bending the knee-joints. Insert needle-point in hole again and try the distance. The needle-point must be held in an upright position, while doing this, so the hole in the paper may not be unnecessarily enlarged. Never incline your compasses while holding the needle-point inserted. Instead, bend at the knee-joint, until the radius wanted is reached. Also bend the pivot-joint of pen- or pencil-point correspondingly. When drawing circles or arcs with the pen, especial notice must be taken to have the pen-point vertical with the knee-joint, as otherwise both nibs of the pen will not touch the paper simultaneously, and a perfect line cannot result. After filling the pen, as directed under "Ruling Pen," take the compasses by the little handle on top of instrument, and turn, beginning the line at the lowest point, and drawing upward and to the right (never reverse) until the circle is com-

plete. Try this on a small piece of paper, before beginning on your drawing, to make sure that your pen works well. If a break in the line should occur, redraw line, as before, from left to right. The compasses are held slightly inclined forward, insuring a better flow of ink and making an even, clean line. For lead pencil work always have your lead nicely sharpened before beginning the drawing. The compass-lead should be flattened on one side to a chisel edge, and placed in the pencil holder with this flat, sharp edge toward the outside of the leg. For small circles use the bow-pen or bow-pencil. After reading over these instructions, it would be well to take up your compasses, handle the instrument carefully and study its mechanism, while going over this lesson again.

The Ruling- or *Drawing-Pen,* also called *Right Line Pen,* is made of one piece of steel, with a handle of ebony or ivory. It has two tongues, called nibs, connected by a thumb screw. By turning the screw the nibs are brought together or separated, for a fine or a heavy line. As set by this screw, a line drawn by the ruling pen is always uniform in width and in this respect differs from a line drawn by the writing pen, where the thickness varies according to the pressure employed. Ruling pens are also made with spring- and jointed nibs, with three and more blades. The ruling pen is never used without a guide, such as the T-square, triangle or rule. It is held firmly, yet lightly, between the fingers. Handle it as you would your pencil. Proceed to fill the pen with ink. One way to do this is to use a quill, which comes attached to the cork of some brands of fluid ink. Another method is to dip the pen into the ink, as with writing pens. Care must be taken, however, to always wipe the outside of the pen before using, as otherwise a blot is almost certain to result. Little ink should be fed into the ruling pen at a time. In working with pen and ink, your first aim should be to make sharp, clear lines, and to connect them smoothly and evenly with arcs as well as making sharp corners. Some letterers work in the curves and circles first when employed on a drawing, and the straight lines last. They claim it is easier to run the straight lines to meet the curves flush. But, as many draughtsmen work the opposite way. Run the pen along the T-square blade, from left to right only. For vertical lines draw the pen strokes upward, when working on left edge of the T-square or triangle. On the right hand side you will find it more convenient to run the lines downward. But when working on the right hand side, change the position of the drawing board, to get a good light. Hold the pen upright, so that both nibs rest on the paper evenly, and with screw head pointing outward. Do not incline your pen to the left when drawing vertical, nor toward the top when running horizontal lines. The point is liable to get too close to the T-square or triangle edge and the ink would spread along it. The rounded shape of the pen-point prevents this, when the pen is held in the proper way. Incline your pen slightly forward when drawing lines, thus assisting in the flow of ink. Rest the little finger on the triangle or T-square blade. Draw the pen along the guide with an even, gentle pressure. Before beginning work on your

drawing, try the pen on a bit of paper. A lot of practice is necessary to acquire proficiency with the ruling pen. Practice ruling lines, long lines, short lines, try to make them uniform in thickness, clean, and at even distances from each other. Practice running lines side by side, to the left, to the right, horizontal as well as vertical, until all lines are clear and even. When done with your pen, always clean it with a piece of chamois, or part of old glove, or even a piece of clean, white cotton fabric, and rub to a fine polish. Insert a corner of your cleaning cloth or leather between the nibs of the pen and carefully draw it through towards the point. Repeat with clean edge of cloth, also wiping exterior parts of the pen. Finally polish inside and out. It is of greatest importance that this operation be gone through every day when using the pen and before putting it away. Do not detach the screw. Always have your cleaning cloth handy. The best way is to attach it with a thumb tack to the right edge of drawing board. The pen needs cleaning frequently, while working. In summer especially the ink dries rapidly and thickens in the pen. The nibs should not be opened when cleaning while at work. The cloth can be inserted and drawn through before refilling with ink, without touching the screw. A good ruling pen can be obtained for 75 cents.

The Bow Spacers are an instrument for measuring small distances. With the two needle-points the most accurate work can be performed. Next to the compasses and ruling pen, the bow spacers are the most useful tool employed in the drawing of letters. It has a fine spring which tends to keep the legs of the instrument separated to the distance set by the adjusting screw, and for this reason is more reliable than the compasses.

Open the instrument by turning the adjusting screw on the side of the leg, until the desired width is indicated by the points, then mark on your drawing by pushing the sharp points into the paper. See that the punctures are clearly marked. For spacing equal distances walk bow spacers along the line, lifting the right and left leg of the instrument alternately and pricking the paper with the needle-points. It is good practice to press the legs of the bow spacers together with the fingers, when opening or closing the instrument, thereby saving the fine thread of the adjusting screw. For larger spacing use the dividers.

By inserting the *Bow-Pen-* or *Bow-Pencil-*attachments you are enabled to draw the smallest arcs and circles. Take care, however, to insert the appliances correctly into the shank, to push them in as far as they go, and to clamp them well with the clamping screw, before employing them. See that the straight or inner side of the pen-point is facing toward the other leg or that the screw of the pencil-point is on the outside of the instrument. Also adjust the needle-point, until its shoulder is even with the pen- or pencil-point. Distinguish between spacer-point and the shouldered point of the needle. As to handling the bow-pen and -pencil for drawing circles, see the directions for "The Compasses." When very small circles or arcs are to be made, the needle-point must be pushed back until both nibs of the pen rest upon the paper evenly. For large circles use the

compasses. Clean you bow pen carefully while using and afterwards. See the directions for the use of the ruling pen. Separate bow spacers, bow pencils and bow pens can be bought, and the busy artist will save valuable time by using them, and avoiding the changing of the needle-point-, pencil-point- or pen-point-attachments.

The Dividers are an instrument like the compasses in appearance, having fixed needle-points only, but with a hair spring and adjusting screw attachment, similar to that of the bow spacers. It is used for exact work in spacing and measurements, where the bow spacers are found too small to reach. Get one without the clamp at the top, for this is unnecessary and bothersome. By handling this instrument carefully and adjusting it to the required distance by the small thumb screw at its side, you should be able to trace the exact dimensions of letters without a slip. Like the bow spacers it has two needle-points, designed to prick spacing marks into the drawing paper. The legs are opened a little more than the required width, then with the screw, set the points to the correct size wanted. When it is desired to copy a letter to twice its size, take dimensions of original, and with the points of dividers mark your drawing paper, then, keeping one leg in position, raise the other leg and swing it around to a point opposite, piercing the paper and marking the double distance. The adjusting screw should never be removed, and the instrument should be closed before putting it back into the case. You may substitute your compasses for use as dividers by employing the pricking point of needle, and inserting the steel- or plain-point in the pencil-leg, but the dividers are more reliable on account of the hair spring and adjusting screw. For small spacing use the bow spacers.

Lead Pencils. It is essential to have all your tools in perfect working order. Your pencils are of no less importance than any other instrument. Always have several of them on hand, nicely sharpened.

To sharpen the pencil a very sharp penknife is required. Hold the pencil in the left hand, with its point toward you, and, resting it against the thumb of your right hand, carefully slice off the wood smoothly and evenly, bringing it to a long taper, and exposing the lead for about half an inch at the end. It will take some practice to perform this feat without breaking the lead, but soon you will be able to do it without accident. Now rub the lead lightly on a sandpaper sharpener, holding the pencil nearly horizontal, rolling it from side to side and around, until the lead takes on a nicely tapering, sharp point. Smooth off the roughness of lead, finally, on a piece of drawing paper, and you have a fine pencil-point to work with. Resharpen the point every little while. Do not cut the lettered end of pencils, as the marks are necessary to note the grade. The compass leads should be sharpened to a flat edge. See the directions given under "The Compasses."

When starting to study the proportions and shape of letters, the beginner should make the drawing on a large scale. Enlarge the letter two or four times the size of the original. Take plain paper first, and copy the outline of the letters freehand. Your pencil work should be as accurate as possible. No

amount of skill in pen work can ever make good the defects of faulty pencil work. Draw all lines from the top down and from left to right, when sketching letters. Practice sketching the letters freehand in long, light and even strokes first, then use the instruments. When using a rule, T-square or triangle, always start the line from the bottom upwards, except when working to the right of the guide. Hold your pencil at exactly the same angle from beginning to end of line. All practice work is done in pencil first. Use a hard pencil, 6 H., in laying out contours of letters. Work with long, even strokes, making a very light line only. This can easily be removed with the rubber, if necessary. After you have finally succeeded in getting a correct outline, it will be time enough to go over the outline with a softer pencil, say 3 H. The lines should be thin and sharp. Try to finish the drawing without use of the rubber, making the letter stand out clear and distinct. When a drawing is to be finished in ink, do not use a soft pencil. Also do not press on the pencil while drawing lines, as this would leave a groove on the paper, which might seriously interfere with the inking-in process. Draw your pencil lines clear through centers, let them sweep over top and below bottom lines. Do not start or stop at the corners, where they terminate. You will find it easier to make sharp corners with your pen, if the pencil lines run through. Before starting to work in ink, all pencil lines not wanted, should be removed, so that the remaining lines show clear and sharp. After all ink lines have been completed, the pencil marks are removed by the wedge-shaped pencil eraser. Be careful to skirt the ink lines as much as possible. Rubbing is apt to dull the appearance of the black ink lines. The drawing is finally cleaned with sponge rubber. This cleaning up is to be done very carefully. Too much rubbing will injure fine, sharp ink lines. Go over the soiled spots of the drawing paper gently, and rub no more than necessary. After cleaning and carefully dusting off, the drawing is ready for the final pointing up and filling in with ink.

Rubber. To remove pencil lines a wedge-shaped soft white pencil eraser is used. This rubber does not roughen or injure the drawing paper, while it effectually cleans away all lead pencil marks. Black sponge rubber is generally employed for cleaning drawing paper. A generous piece of it can be bought for 30 cents.

A Pencil Pointer is made by glueing strips of sandpaper to a small slat of wood. You may cut it from a cigar box. Let it be two inches wide by nine long, —the length of an ordinary cigar box—allowing three inches for the handle. Now cut strips of No. 1 sandpaper, to cover one side of the wood, with the exception of the handle, and glue them on. Pencil pointers are sold for from 20 to 30 cents.

Writing Pens. For freehand lettering, pointing up and filling in, *Gillott's* pens, No. 303, are generally used by letterers, but No. 404 will be found excellent for all-around work. A gross box costs 65 cents. Writing pens are employed for all but straight lines on small lettering and ornaments.

Thumb Tacks. Select those with flat heads, so the T-square may slide over them easily while you

are at work. When inserting in the paper, slant them slightly, thus assisting in the stretching of the drawing paper. Press them down with the thumb as far as they will go. Use a lifter when removing them. "Government" or "Silver Steel" thumb tacks are made on a new principle, the points will not push through the heads, nor pull out. They cost from 35 cents per 100 upwards, with lifter. For stretching paper see the directions under "Drawing Paper."

India or *Chinese Ink* only is used for all drawings. Writing inks of any kind are barred. The best India ink comes in sticks or cakes, and should be ground in water fresh whenever used. But inasmuch as this means the loss of much time, to be done properly, the fluid inks are generally employed. Buy a small bottle at a time. Keep bottle well corked, to exclude dust and dirt, and, also, to prevent disaster. The cost is about 25 cents. A bottle-holder is sold at 30 cents.

Drawing Paper. The beginner requires sketching paper of the plainest kind only, for his pencil work. Get the smooth sort. It can be bought by the yard. Later in the course, when the lettering is to be finished in ink, the drawing paper should be of good quality. There are numerous brands of paper in the market, and they are almost all of excellent quality. Smooth paper only should be used for lettering. The drawing paper may be cut somewhat smaller than the drawing board. The cross piece on each end of the board, being of tougher wood, the thumb tacks cannot easily be employed on them. The paper is tacked upon the drawing board, square with left and lower edges. Use the T-square to insure accuracy. Get the right or finished side of paper uppermost. To find the right side hold paper up to the light and look for the watermark. The side from which the lettering or manufacturer's trade mark is readable, represents the right, or working side. If no watermarks can be found, lay the paper upon the drawing board, and with your fingers gently rub over the surface, first of one, then the other side. Select the smoothest side to work on. To stretch the paper upon the drawing board, put a tack into the center of the top edge of the paper, pressing it well down with thumb, then gently, but firmly rub down with the fingers of the left hand to the middle of bottom edge, and place another tack there. Now run your hand over the paper, starting from the center, towards the right edge, putting down a tack at about the middle point, and then, sliding hand to left over the paper, fasten the edge there likewise. Starting again from center of the sheet, rub your hand towards each corner in succession, and, holding the paper firmly, insert tacks also. Make sure of pressing the tacks down hard with your thumb. If more tacks are necessary, put them in between the others, always pressing the paper down first, from the center outward.

When the student of lettering has passed the experimental stage and enters into the competition for honors and material remuneration, he will become more painstaking in the execution of his art as well as in the selection of materials. The first thing, then, is to substitute fine paper, and heavier, say three- or four-ply, or bristol board, for the cheaper grades used for

practising. The paper may then be *mounted* on the drawing board. This method insures more comfortable work, as there are no thumb tacks used, and the T-square and triangle may be moved over the working surface of the paper more easily and without obstruction. When the finished drawing is to be removed from the board, it is simply cut along the outer edge and lifted out. The remaining pasted edges may then be soaked with warm water, and after a while the strips can be pulled off, and small particles still adhering, cleaned away with the penknife. Care should be taken not to use too much water, nor to get any moisture upon the drawing board, as this would tend to raise the grain of the wood, and might even warp it out of shape.

To mount the paper, first find the right side. Make sure your board is smooth, if not, remove all particles of paper or glue, and sandpaper any roughness. With the paper right side up, cut off about an inch of the corners diagonally. Turn up the edges of paper and lay the sheet over on the other side. Soak paper well and evenly with clean water and sponge, except the edges. Now lay the paper over on the drawing board with right side up. Let the edges of paper be parallel with the edges of drawing board. Paste the top edge and turn it down, pressing it upon the board from center of the sheet outward, to both ends. (Photo paste is good to use.) When fastened down sufficiently, paste opposite edge of paper. Turn down and rub from center outward, as before, but with a downward motion, designed to stretch the paper. Finally repeat pasting process, first on one, then on the other of remaining edges, stretching well outward, while rubbing with the palms of the hands. Stand your drawing board on edge, until the paper is dry, when it will be found stretched tightly.

The first thing to do, on starting the drawing, is to square off the paper, put in the center line, and draw three lines around the working space. The first, or outer line represents the cutting line, and along this pencil line the penknife is used, to cut and remove the finished drawing from the board. (Do not use the T-square or triangle as a guide when cutting with knife.) The second, or middle line is for the border. The third, or inner line is drawn to keep the reading matter exactly within its limits.

A Flat Rule, graduated to eighths and sixteenths of inches, is handy for ruling lines and rough measurements for sketching and pencil work. For purposes of taking dimensions of letters as well as for spacing, &c., compasses, dividers or bow spacers are used. A strip of cross-section paper, divided ten squares to the inch, is a valuable adjunct to the letterer. Keep a strip, two inches wide, by six or eight inches long, pushed under the right edge of your drawing paper. With a pencil mark the spaces, dimensions, width of letters, thickness of lines, &c., on the strip, and compare proportions as you proceed. While not as accurate as the measurements marked by the bow spacers and other instruments, this paper scale will be found very handy and useful.

Cross-section Paper is drawing paper, ruled in small squares. It is a very convenient article for the student when copying letters on an enlarged scale. The ruling is also done on transparent or tracing paper.

Transfer Paper. The black carbon paper, sold at art material stores, is not suitable for transferring designs, as the carbon generally contains oil and the marks are difficult to remove. Instead you can easily construct a piece of transfer paper by blackening a sheet of thin, white paper on one side with a lead pencil, and this may be used for a long while. Take a sheet of note paper, unruled, thin, white; unglazed bond paper would serve best. When pointing your lead pencils, you may save the lead powder and use it to rub into the sheet with a small rag. Be careful to keep the other side clean. The paper should be blackened evenly and well up to the edges. When done, any excess of the powder is carefully shaken off, and the sheet further cleaned and the lead surface smoothed and tempered by rubbing it with a piece of soft paper with a circular motion, until the sheet shows an even and unbroken dark gray color.

Tracing Paper or -Cloth. When you have drawn a design on sketching paper and desire to carry it over to the drawing paper to be finished in ink, a piece of tracing paper or tracing cloth is spread over the design and fastened at the edges with thumb tacks. With a sharp pointed pencil the lines are then traced very carefully on the tracing paper. When finished, both the sketch and tracing are removed from the board. The drawing paper or card board is now mounted on the drawing board, as directed under "Drawing Paper," and the tracing securely fastened over it, taking good care, however, to first square it by the use of the T-square, before putting the thumb tacks in place. Between the drawing paper and the tracing a sheet of transfer paper is inserted with the white or clean side up. This may be shifted when necessary, by removing a tack or two and fastening down securely again when placed. The lines of the design are now redrawn with painstaking care. A very hard and well pointed pencil is used. It is necessary to keep the paper smooth, and in shifting, to avoid even a fractional movement of the design or tracing.

Irregular Curves are sometimes necessary or helpful in the construction of borders for inscriptions or advertisements, also in drawing ellipses and the curved arrangement of a line of lettering. They are never employed in the shaping of letters. Use transparent curves in preference to black rubber or wooden ones. Select two that show the longest and most graceful lines. When using part of an irregular curve to draw a border, and, having drawn with pencil the line wanted, mark at beginning and end of the line, on the paper as well as on the implement, so that the particular part of curve can be found again when inking in. It may also be necessary to reverse the curve to continue the design, or to carry over the contours on the opposite side of the border, but it is a better plan to use tracing paper for this purpose. As used for ellipses see the directions under "Ellipses," page 30, and also "The Border," page 121.

Brushes. Black or red sable brushes are employed in the course of lettering for the final filling out with ink of the spaces betwen the outlines of large letters. To correct mistakes of overdrawn ink lines and spots by painting out with white color, a very fine brush

is used. Brushes, mounted in metal ferrules, with handles are preferable. Nos. five or six may be selected for the ink work, No. one for the white color.

Clean out the brushes in water, as soon as done with them. Take special care not to let the ink harden in your brush. Lay them into a case or box, flat, so as to keep the hair straight and smooth.

Ink Eraser. To remove an ink spot or fraction of inked line a sharp steel eraser is used. To make a perfect erasure, so that it cannot be noticed, is a very delicate operation, because the smooth paper will be roughened. The spot may finally be flattened and polished by rubbing with the bone handle of the eraser. Ink rubber should not be used.

The correction of faulty ink lines and spots on drawings intended for photographic reproduction is a simple operation. If an error is made, finish your drawing first, and after all pencil marks and mussed spots have been cleaned off, correct the faulty line by painting over with white color, as directed under "Water Color, White," in the article below. Advertisement designs are made for reproduction only, and in themselves represent merely a means to that end.

Water Color, White. A cake or pan of white color is used to paint out errors on finished pen work intended for mechanical reproduction. Take a very small brush, dip into water and rub on cake or pan. The moist color will yield quicker. When rubbed thick and creamy, apply to the spot to be obliterated, taking care to confine the operation to the inked portion only, and not to daub the paper. The white line at the edge should be cut sharply. A second application of white color may be necessary after the first coating has dried thoroughly.

Sheet Gelatine is used by some letterers for transferring designs, measuring, &c., and also as a support for the compass- or bow pen-points, when drawing circles or arcs, to avoid tearing large holes in the drawing paper.

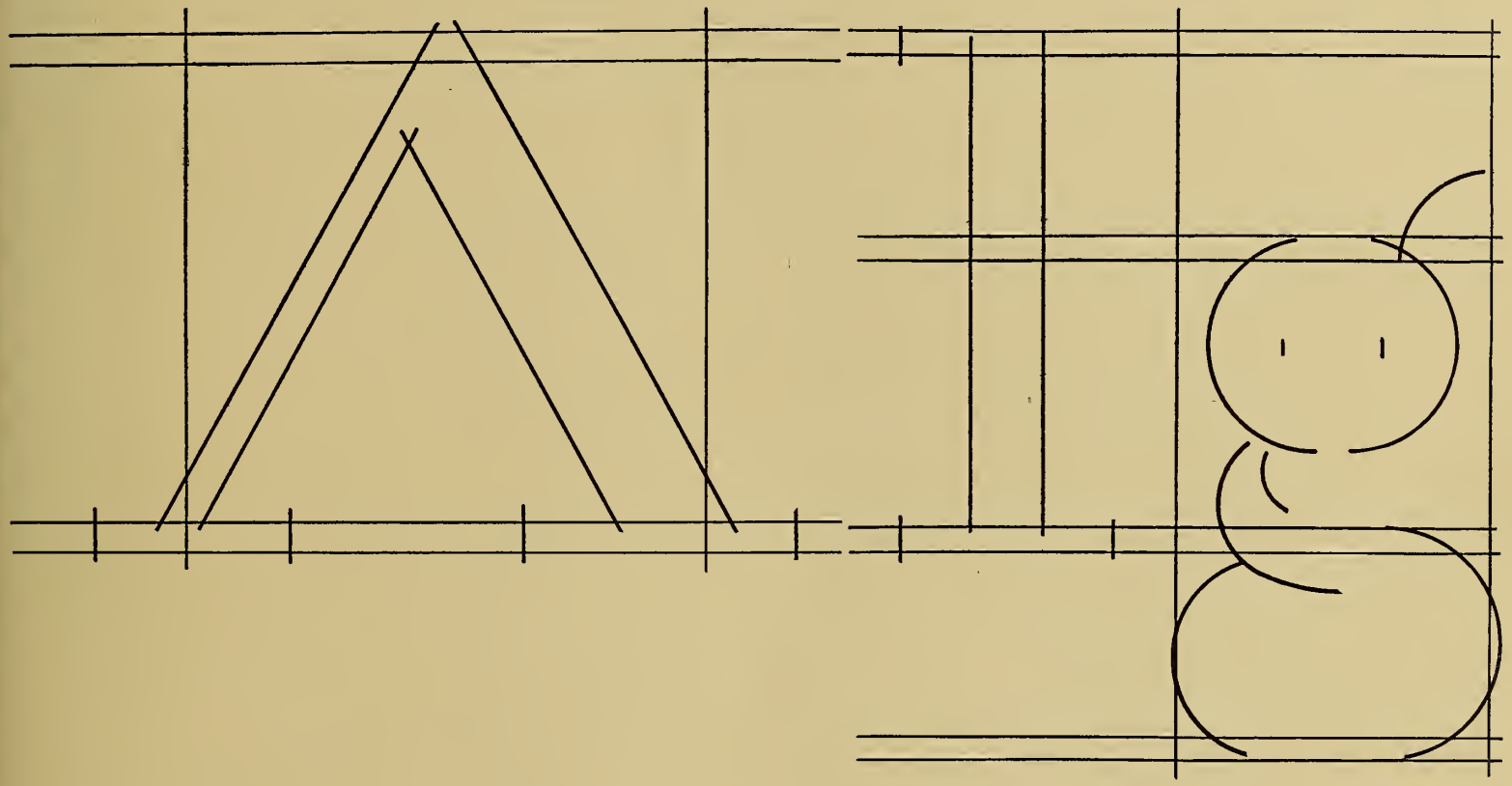
Its use is not recommended, as the practice is liable to soil the paper. When the compasses are employed properly, the drawing paper should not become torn, and the use of tracing paper fills all the other requirements.

PART II—PRACTICE WORK

Position as to light. Always do your work in the best light obtainable. Get nearest the window. North light is the best, light from the east the next best. See that the light falls on your drawing board from the left upper corner. You will notice, when drawing lines with the T-square and triangle, that by having the correct position, no shadows fall on the working side of your paper, and your eyes will be saved. The drawing board may be laid flat upon the table, or slightly inclined at the top.

Plate I

The Guide Lines



When lines are to be drawn on the right, or shade side, swing your drawing board around, so the bottom edge will be at the top, but do not change your position, nor that of the T-square. The horizontal top lines of letters are drawn in the same manner.

Practice work. Your daily practice work should be done in the following order. Select the proper place to work, with reference to light, as above. Dust and carefully wipe drawing board, T-square, triangle, &c., with dry cloth. Sharpen and point pencils and compass lead. See that your hands are clean. Stretch drawing paper upon the board. (See under "Drawing Paper.") Square off the paper and put in the guide lines.

Guide Lines. (Plate I). You may start in to copy the first three letters of the Roman alphabet from Plate 2, "Mechanical construction." The letters are, say, 1 inch high, so you should make your copy 2 inches. Divide your sheet of drawing paper into two inch squares. Be very accurate to have all squares exactly alike. Draw even, thin, sharp lines. Beginning from the top line, the first space of squares is to be filled with letters, the next one below left blank, the following one is for letters again and so on. Now, with bow spacers measure width of hair lines of letters, and mark from top and bottom line of first space on drawing paper the double distance, then draw lines from the marks, parallel with the others. Do the same with the other letter spaces. You are now ready to begin the sketching in of the letters into the squares. This is done freehand, in long, light, sweeping strokes of the pencil. By measuring the width of letter and comparing it with its height you will arrive at the proportions relative to its position in the square. The Roman A is much wider than it is high. It should be started from the center and top line of the first square, and the serifs, or spurs, extended outside of the square. See first example on plate 1.

The letter B is then sketched into the third square, leaving the second square to intervene. Place the lines for the heavy, or down stroke, just within the square.

C, like O and G, &c., is a round letter, and can be placed almost wholly within the square.

All letters are sketched in freehand and no rule or instrument whatever is used for guide or measurement. The proportions must be studied out and copied with care. Fill in the remaining squares on your drawing paper with the letters A, B and C as above, always trying to improve on the letter previously made. After finishing a letter, examine it from one side first, then from the other, and also looking at it from the top, or upside down. You will thus find deficiencies in the roundness of the curves and the shape generally. These shortcomings should be corrected, however, from the original position as you sit before your drawing board. Each example must be carefully studied and practised unceasingly, until the student has brought out every line and curve as correctly as possible.

When you think that you have copied the letters as well as you can, clean them off with sponge rubber, until only faint lines remain. Over these you may now proceed with your instruments, guided by the rules on the "Mechanical construction" plate.

Lay T-square across drawing board, with its head against the left edge. Place triangle in position against top edge of T-square blade, so as to reach slightly above top lines of drawing. Now with sharp pencil draw all vertical lines along left edge of triangle, starting at the extreme left and working towards the right, until all lines are drawn. The exact width of hair- and body-lines is determined by measurement with the bow spacers, dividers, or a piece of cross-section paper. Next slide T-square down the board, until the triangle again reaches just above the height of lines to be drawn. Proceed as before, beginning at the left, and so on, until all vertical lines have been drawn. Removing the T-square, all diagonal lines are drawn next, by the use of the triangle. Attention must be given at all times to get uniform widths of hair lines and body lines. Now discard the triangle and draw horizontal lines along the T-square edge, beginning at the top and working along from left to right, to the end of blade. Then lower the T-square and, as the lines come into view repeat the operation all the way down the sheet.

Do not have any instruments on the drawing board and in your way. When all straight lines have been gone over, remove T-square and take up your compasses. With the pencil point draw all circles and arcs, as told under "The Compasses." Begin from the top line and work downward, doing the large circles first. Let your arcs run flush with the straight lines. The bottom and top lines of the letters are finished by the T-square last of all. To do the top lines conveniently, the drawing board is turned around, until the bottom edge is at the top. With the T-square head pressed against the same edge as before, (now on the right) draw the top lines of letters (now at the bottom). (See also "The T-square," "The Triangle," "The Lead pencils" and "The Compasses.")

After you have succeeded in making good copies of the first three letters of the alphabet, preserve the best sheet, destroying those containing the inferior studies. On a fresh sheet continue with the next three letters, D, E and F, and so on, down to Z, and the numerals.

The sheets of drawing paper containing the best copies of letters are finally scrutinized, and if no improvement can be made on any of them, they may be worked out in ink. (See under "The Ruling pen," "The Compasses," &c.) A better way, which insures cleaner work, is to trace the drawings upon a fresh sheet. (Consult the article "Tracing-Paper or -Cloth.") When all your letters are done, compare them with the originals in the book and make a new drawing for any found deficient.

Take good care of your drawing instruments, wipe them after each handling.

Always remember that the light should fall upon your work from the upper left corner of drawing board.

Take your time to work out lettering. Go slow. Good work cannot be done in a hurry. Lettering requires patience.

When working on a drawing, keep your paper as clean as possible. A lot of mussing can be avoided by covering up all portions of the drawing below the working line. Use tracing paper, or even clean

Plate II

Modern Roman

Mechanical Construction 1

Plate III

Modern Roman

Mechanical Construction 2

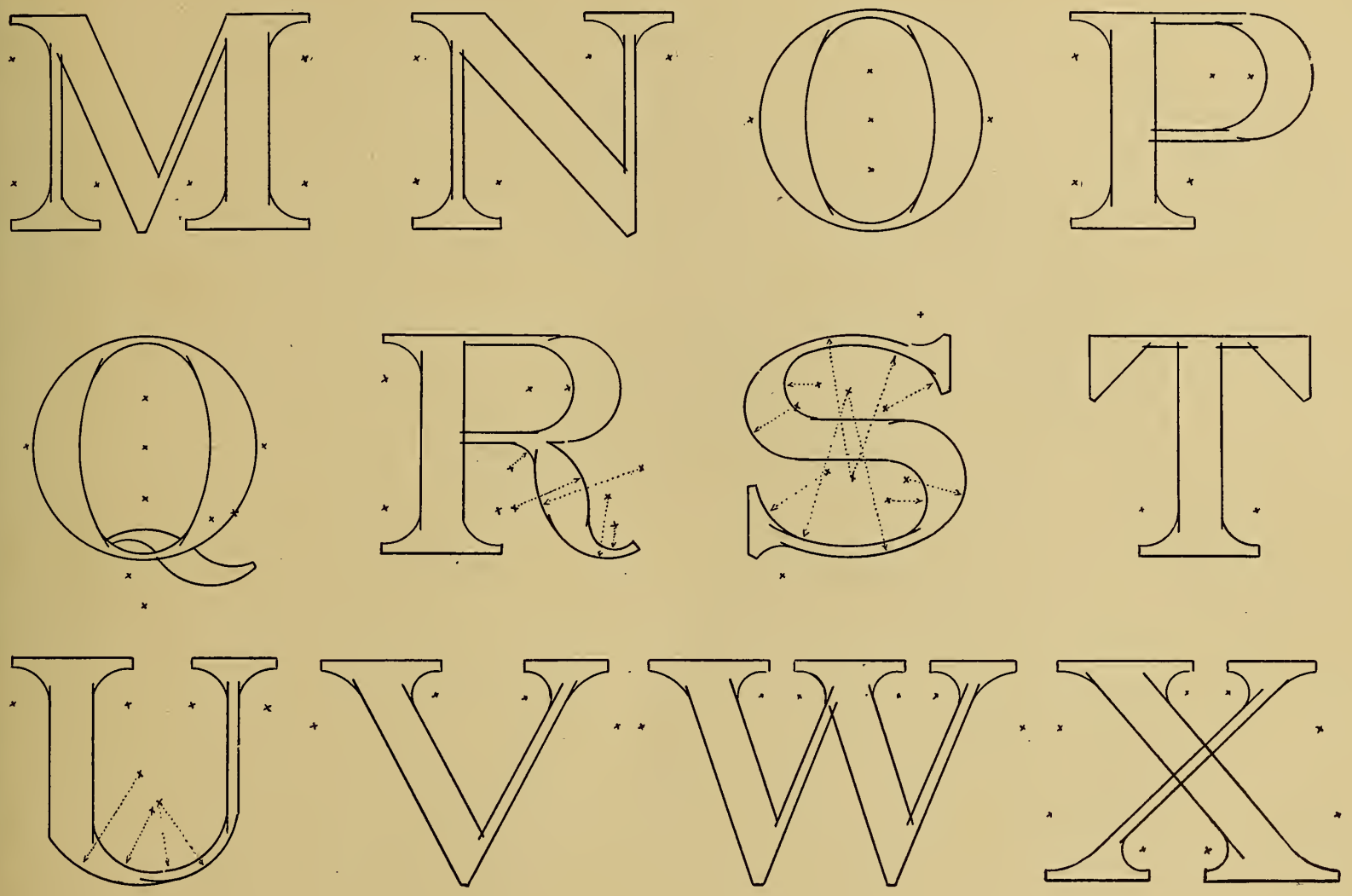
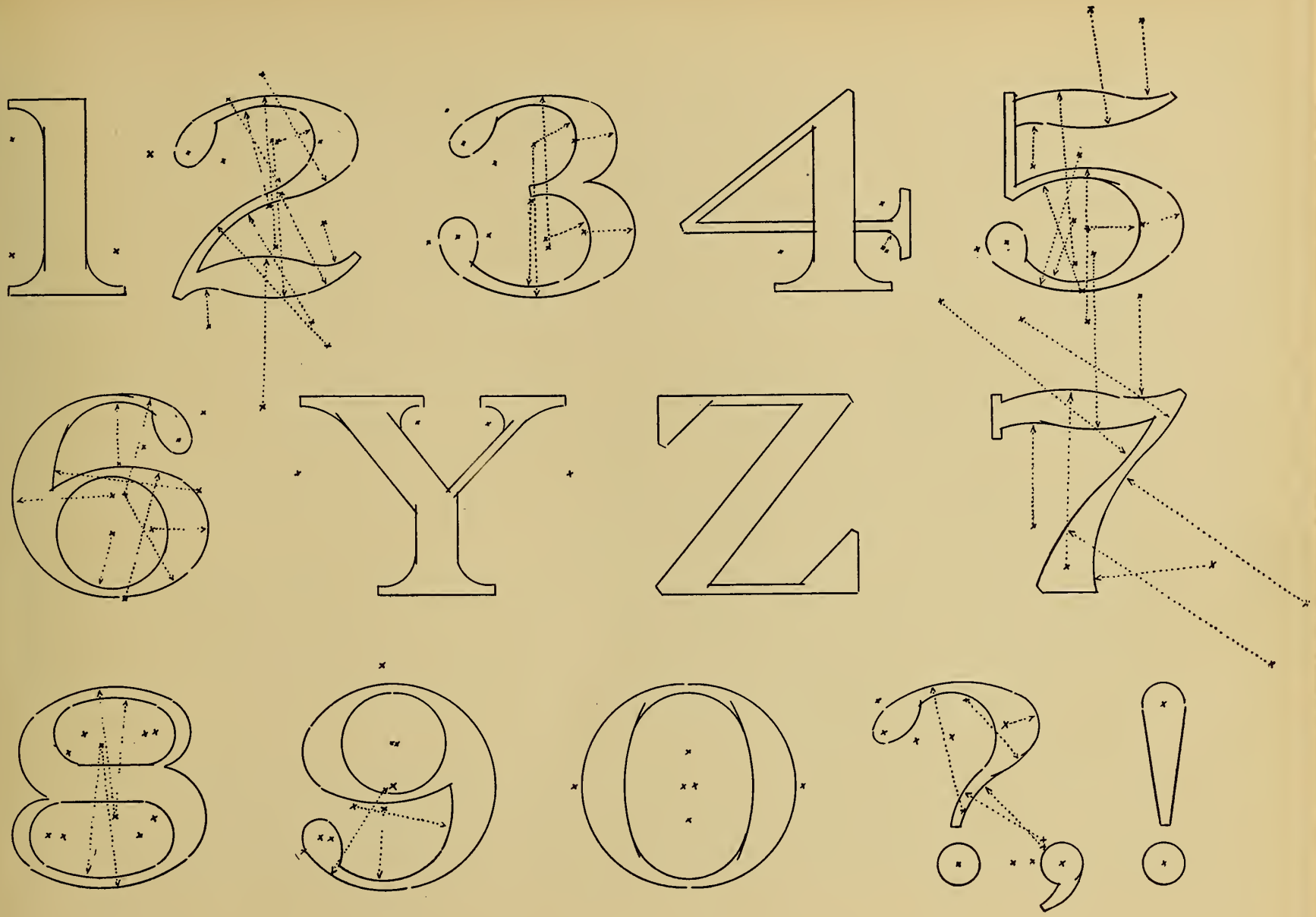


Plate IV

Modern Roman

Mechanical Construction 3


1 2 3 4 5
6 Y Z 7
8 9 0 ? , !

wrapping paper, and thumb tacks. After the top line of lettering has been inked in, shift your covering to below the next line and so on.

After proficiency in the use of the instruments has been attained, lettering is always finished by their use. At this stage the freehand work is allowable only in the sketching of letters.

Freehand work should again be encouraged on all but straight lines, when the student has mastered the art so far as to be able to draw all the letters to perfection.

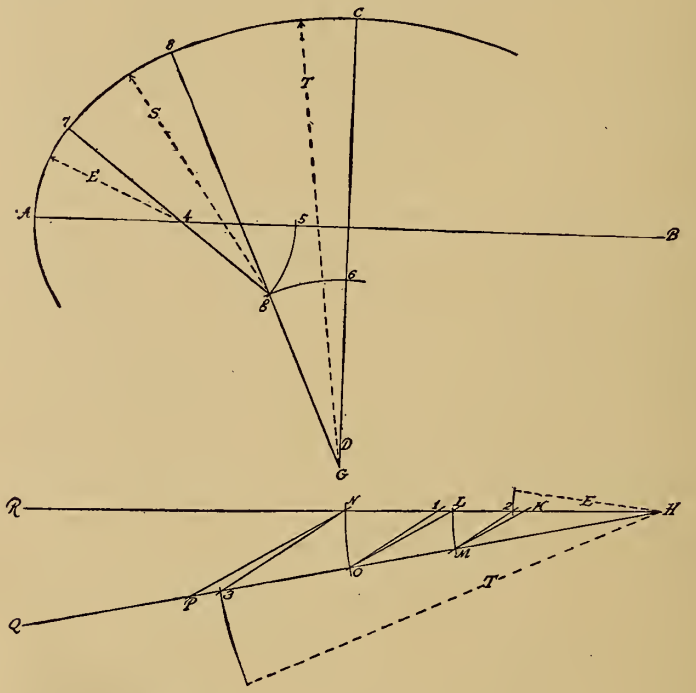
Ellipses. The construction of an ellipse, while a difficult and laborious proposition for the student of mechanical drawing, can be narrowed down to a simple manipulation for the purposes of the practical letterer. In this respect elliptical lines are rarely used for anything but borders or frames of advertisements, and inscriptions on plans, memorials, &c.

An oval or elliptical border is a most handsome thing, although it eats up a lot of costly space when used for an advertisement.

One method of drawing an ellipse, and the easiest of all, is to employ a section of the outer edge of an irregular curve. You can make ovals in any shape, full pointed or flat. Use the curve for a quarter section only. Divide the space on the drawing paper by a horizontal and a vertical center line. Draw elliptical line by guide of the irregular curve, but do one-half or one-quarter section only, and use tracing paper to construct the rest. (See "Irregular Curves," page 18; also "Tracing Paper," page 18.)

Another method, and one that can be employed also on larger work, is to put in the center lines, as above, and then to use the compasses as in constructing the inner line of the letter O. (See "Mechanical construction of letters and numerals," page 31.)

As given in books on geometry, one of different methods of drawing an ellipse is as follows:



First determine the major and minor axes. Then draw straight lines R H and H Q, making any convenient angle at H. With center H and radii equal to the semi-minor and semi-major axes respectively, describe arcs L M and N O. Join L O

and draw M K and N P parallel to L O. Lay off L1=1/8 of LN. Join O1 and draw M2 and N3 parallel to O1. Take H3 for the longest radius (=T), H2 for the shortest radius (=E), and one-half the sum of the semi-axes for the third radius (=S) and use these radii to describe the ellipse as follows: Let AB and CD be the major and minor axes. Lay off A4=E and A5=S. Then lay off CG=T and C6=S. With G as center and G6 as radius draw the arc 6, g. With center 4 and radius 4 5, draw arc 5 g, intersecting 6, g at g. Draw the line Gg and produce it making G8=T. Draw g 4 and extend it to 7 making g 7=S.

With center G and radius GC (=T) draw the arc C8, with center g and radius g 8 (=S) draw the arc 8 7. With center 4 and radius 4 7 (=E) draw arc 7 A. The remaining quadrants can be drawn in the same way.

MECHANICAL CONSTRUCTION OF LETTERS AND NUMERALS

To lay down strict rules for the construction of the ideal lines of Roman letters seems a cruel undertaking, but as there should be a system by which the beginner may be taught, the author has endeavored to supply one according to his experience.

These rules will gradually be superseded by simpler methods as the student acquires proficiency.

Even the accomplished artist draws his guide lines to be eliminated after he has no further use for them.

The drawing paper is first laid out in guide lines, as described under "Practice Work," page 19.

A The letter A is sketched into the first square freehand and in light, clean lines. When you have succeeded in copying the letter from plate 2, "Mechanical construction of letters," as well as you can, remove the pencil marks with sponge rubber, until only faint lines remain. With the triangle as a guide and a sharp pointed pencil draw the outer lines from the lower corners of square upward to the center of top line of square. The widths of hair- and body-lines are measured by the bow spacers or dividers and then marked on the drawing paper. The inner straight lines are now drawn accordingly and parallel with the outer lines. The length of the serifs or spurs on the bottom must then be determined and marked on the drawing. The arcs are run in with the compasses and pencil-point. (The centers for compass-point are indicated on the "Mechanical construction" plates by small stars.) Note the smaller and larger curves, as used for the slanting lines. The top and bottom lines are finally drawn along T-square edge. Observe that the pointed top of A extends above upper guide line. Remember that all the letters are first sketched in lightly, freehand. (See "Practice Work," page 19.)

B In constructing B the first line of the down stroke or body line is drawn by the triangle edge, along the left side of the square. The width of body line is taken and marked on drawing, and the second line of the down stroke made parallel to the first. After the lengths of the two serifs have been marked and drawn the triangle is discarded and the middle hair line located slightly above center, marked and drawn. Next the outer semi-circles to

Plate V

Modern Roman 1

A B C D
E F G H
I J K L

Plate VI

Modern Roman 2

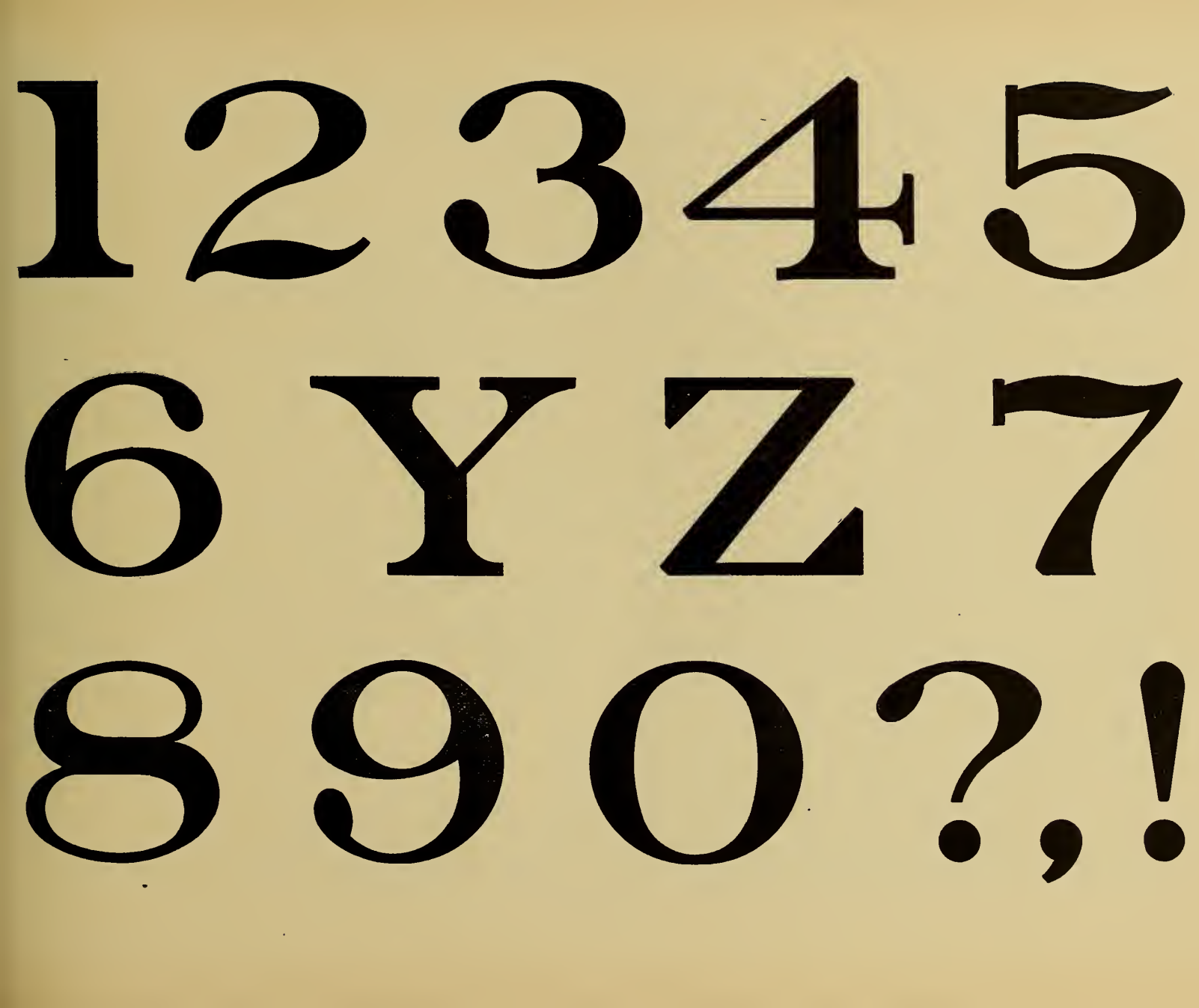
M N O P

Q R S T

U V W X

Plate VII

Modern Roman 3


1 2 3 4 5
6 Y Z 7
8 9 0 ? , !

the right are made. Then the inner curves, after the widths of the body lines have been carefully measured. Note that the thickness is slightly fuller towards the middle part than that of the straight body lines. Observe also that the lower round body line is a little heavier than the upper one, and that the bottom portion of the letter is more expanded than the top. All letters look better when "weighted" towards the lower portion. The arcs for the serifs, and the top and bottom hair lines are drawn last.

Find the exact point of center for your compasses so that the curves are run perfectly tangent with the straight lines. The construction lines are drawn heavier than the guide lines, and a softer pencil is used.

C From a point in the exact center of square the outer curve of C is drawn with the compasses. This line must slightly overreach the top and bottom guide lines. The straight line of serif at the right is next run down by the use of triangle edge. The centers for compass-point must now be found to extend the top and bottom outer curves toward the right. It is of the greatest importance to have the lines run flush with the semi-circle, so that they appear as one line and no break is noticeable where the two arcs join. The end of lower hair line is carried a little farther out than the upper, in order to better balance the shape of the letter. The inner curve to the left comes next, after the width of body line has been marked, then the inner lines on top and bottom, connecting it, are drawn. Note that the end of lower hair line is thickened. The width of all hair lines must be uniform. The small arc on top of serif, the two short straight lines on serif and the one on end of lower hair line complete the letter.

D As in B, the two vertical lines for the down stroke of D are first drawn. The outer semi-circle to the right comes next, then the inner curve. Always obtain your measurements first. The small arches connecting inner curve and horizontal hair lines must be placed very accurately, so as to run flush with both, without showing a joint. The serifs are then drawn, as before.

E The vertical lines for the body line of E are drawn first, the same as for the letters B and D. The vertical lines of the brackets and center serif are made next, after their dimensions have been ascertained. Note that the lower bracket extends slightly beyond the line of the upper one, also that it is a little heavier. Measurements are now taken of the widths of brackets, and the diagonal lines drawn. The middle hair line is placed slightly above center of square. The serifs on top, bottom and on middle hair line are made, then the short end strokes and finally the top and bottom lines.

F With the exception of lower bracket, the construction of letter F is identical with that of E.

G The letter G is constructed like C and the lower body line is added by the use of the triangle. The serifs are drawn last. See that lower body line balances well with top serif.

H Place letter H in the center of the square. The two body lines are drawn first, after their

width has been marked. The middle hair line is next put in. Note that it is located just above the center. The serifs are now drawn and the letter finished by the top and bottom lines. The serifs must all be of uniform length.

I Letter I is but a repetition of a part of former letters and its construction requires no special description. Place the I in the center of the square.

J The body line of J is placed against the right side of the square. The arch at the bottom is then drawn toward the left and the ball added. Joining the lines of the ball so that they appear as one continuous curve requires accurate placing of compass point. The curve must reach just below the guide line. The serif and top line are drawn last.

K A difficult letter is K. After drawing the lines of the vertical body line, the exact location of the diagonal hair line is of importance. When this has been put in, the next difficulty is the correct placing of the short diagonal body line. This must be sufficiently slanted so as to extend far enough beyond the upper hair line to balance the position of the letter well. The serifs are now drawn. Special attention must be given to the bringing out of the proper values of the smaller and larger curves necessary to meet the slant of the lines. The top and bottom horizontals finish the letter.

L The construction of letter L is done under a partial repetition of the rules for making the E.

M The vertical lines of M are run exactly within the square. Draw the hair line to the left first, then the body line at the right. Next find the center between the two and mark on the bottom guide line. From this point draw the diagonal hair line upward. (An easy way to get the correct slant is to run in the top left serif arch first and then let the lower line of diagonal body line run up to meet it.) The serifs are all put in simultaneously, and then the diagonals drawn. The short end strokes and the top and bottom lines are finally done. Note that the point of center body line extends below guide line.

N Similar to M the N is made. The two hair lines are drawn first, then the serifs, and the diagonal body line next. The short ends and top and bottom lines last. Remember that the point of body line must reach below guide line.

O The outer line of O is a simple circle, just overlapping the top and bottom guide lines. A horizontal and vertical guide line, drawn across the center point, will assist in finding the correct position of the compass centers, for drawing the inner long curves and also to connect them by the shorter curves of top and bottom inner lines. Note that the body lines are a little heavier in the middle portion than the straight body lines. See also that the hair lines, at their narrowest part, are of equal width with the straight hair lines. The small curves must run flush with the larger ones.

P The letter P is constructed on part of the principles of B except that the middle hair line is placed slightly below the center of square and that the outer semicircle extends outward as far as the lower curve of B.

Q For Q draw an O as per directions above. The dash or tail at the bottom must be made gracefully and somewhat lighter than the body lines.

Plate VIII

Classic Roman

A B C D E M
G H I K L N F
O P Q R S T
V X Y Z

Observe the compass centers to get the dash into the right position.

R Another letter hard to make is R, and the obstacle to be overcome is the curious shape and position of its curled tail. The other parts of the letter are constructed as in B. The hooklike end of the tail or dash should stand out beyond the line of the upper semicircle, and also run fairly over and below the guide line. The curvature of the dash must be well studied, for upon its correct shape depends the expression of this letter. The large curves are always drawn first, the smaller ones last. Give ample width to the dash.

S The most difficult to draw of all letters is the S. Of advantage to the student, however, is the fact that it will about fill the space within a square. The top and bottom hair lines are drawn first. Remember that the outer curves must extend just above and below the guide lines. One vertical center guide line, and two horizontal guide lines, equal to the width of the straight body lines, are drawn. The center between these guide lines should be a little above the center of the square. The outer semicircles are drawn to connect the upper hair line with the lower center guide line at the left, and the lower hair line with the upper center guide line at the right. Next the inner curves are made to connect the inner line of the top hair line with the upper center guide line, and the inner line of the bottom hair line with the lower center guide line. The width of the body line should be greater at the right and left curves than at the center part. The vertical lines of the serifs are now put in, the lower one on a line with the upper semicircle and the upper straight line receding from the line of the lower outer curve on the right. This is done to balance the upper and lower portions of the letter. The short curves on both ends of the serifs are then drawn. All small curves must run flush into the larger ones. The short horizontal lines for the center body line are now made, tangent to the curves. Finally the short end lines are drawn. The letter S requires a great deal of study and practice to bring out the beauty of its shape.

T A simple letter is T. As long as you get the measurements correct you cannot fail to make your copy an exact duplicate of the original. Place it right within the square. The body line is drawn first. Then the two brackets, which must be of uniform length and thickness. Be careful not to get them too heavy. The serifs and top and bottom lines are done last.

U The proportions of U should be carefully studied. The body line is drawn first, then the vertical part of the hair line. Next the curves connecting the hair- and body-lines are run in. You must try with your compasses until you find the exact center point and have the curves meet the straight lines perfectly flush. The serifs and top lines complete the letter.

V The V is like A reversed, without the cross hair line, but much narrower than that letter. Draw the outer diagonals from the center of the lower line of the square, the inner lines parallel to the former. The serifs are measured and drawn as in A and the larger and smaller curves, as applied for

the slant, well studied. The short finishing line on the bottom end and the top lines are done last. The point must extend below the guide line.

W The widest letter of the alphabet, W, requires special study as to proportion. Light freehand sketching will determine the position of the two starting points from the lower guide line. The first body line and the last hair line are drawn at the start. Then the middle hair- and body-lines are run parallel with the first. The two open spaces between the upper portions of the letter must be exactly alike in size and shape. The serifs are then drawn with caution. Make use of the experience gained with letters K and V. The short end lines and the straight top lines finish the letter. Do not forget that the two points should reach below the bottom guide line.

X A rather peculiar letter is X. The result to be aimed at, in the construction of this letter, is an even balance to right and left and also a smaller upper than lower portion. The waist line must consequently be raised above the center of square. Start the outer diagonal lines from the top corners of the square and let the hair line extend beyond the lower left corner. The second line of the body line must run outside of the square at the lower right corner likewise. The second outline of hair line is then put in and the effect studied. If they are balanced correctly, the serifs are drawn with the same attention to the right placing of the smaller and larger curves as in V and W. Then the short end strokes of the serifs and the top and bottom horizontals are drawn.

Y The upper portion of the letter Y, resembling V, it is made on somewhat similar principles. The vertical body line is drawn in the center of the square. The outer diagonal lines are then put in, bringing the waist line on the right to about the center and the inner diagonal body line to connect at the same point. Thus the waist line on the left side will come considerably below the center. The outer diagonal lines are run outside the upper corners of the square. The serif curves are now drawn, observing the correct placing of the larger and smaller curves, as for previous diagonals. The short end strokes and the top and bottom lines are then made.

Z The last letter of the alphabet, Z, fits into a square at the top, the bottom portion extending outside of both corners. The diagonal body line is put in first, then the short vertical lines of the brackets. The diagonals of the brackets are next drawn. The lower bracket may be a trifle heavier than the upper one. The short ends are then finished and the top and bottom hair lines drawn.

THE NUMERALS

1 With the exception of part of the top serif the figure 1 is identical with the letter I and is constructed accordingly.

2 The 2 about occupies a square. Much study is required to balance the figure properly. To bring out its grace of outline untiring practice is necessary. The top hair line is done first. Run the upper curve slightly above guide line. Next the hair

Plate IX

French Roman 1

ABCDE
FGHIJ
KLMNO

Plate X

French Roman 2

PQRST
& Z ,!?
UVWXY

line is drawn from the left lower corner of the square up, toward the center. The inner line of the upper body line is then run in, connecting the inner line of the top hair line with the lower hair line. The second line of the lower hair line is now run from below and upward, observing that the width of the hair line must at its narrowest point correspond to the width of the straight hair lines. The curved outer line to the right is drawn by two successive center points. The lower body line or tail is done next. The peculiar swing must be carefully copied. The long curves are drawn first, the lower one reaching a trifle below the guide line, the smaller ones last. Note that the body lines are a little fuller than the straight body lines. The ball at the top comes next and great accuracy is necessary to run in the small curves as one continuous line. The figure is finished by the short strokes at the bottom.

3 The proper shaping of figure 3 demands even more study and practice than that of 2. This numeral also is just about as wide as a square. Note how much smaller is the upper portion than the lower. The top and bottom hair lines, just reaching above and below the guide lines, are drawn first, then the round body lines, somewhat like those of the letter B, the lower one a little heavier than the upper. The balls are then added to top and bottom ends, and again the lower one must be a trifle fuller. Examine the work critically to see whether the figure is properly balanced. If not, try again. The short straight line to finish the center end is done last.

4 The 4 is of comparatively easy construction, but its width is perplexing. Place the figure in the square so that the vertical line of the serif on the right end of the hair line rests on the right side of the square. The body line is drawn first. Then the horizontal hair line. The correct location of this cross line is important. Next comes the diagonal hair line, which must run out to the left sufficiently far to balance the serif end on the right. This serif is smaller than usual. The point on top must extend above the guide line. The serifs are now drawn and the short ends finished.

5 To construct the 5 is easier than it seems. The point to be observed here is the proper balancing of the lower portion of the figure with the upper. Start by running in the bottom hair line, and do the center hair line next. The round body line is then connected with both. Then comes the vertical hair line, followed by the upper curved body line or tail. This is nearly like the tail of figure 2. The ball end of the bottom hair line is then drawn. It should extend far enough beyond the line of the upper vertical hair line to balance the figure well. Finish by putting in the short end strokes. Do not forget that the round body lines need fullness.

6 For the 6 draw a circular guide line first, extending just above and below the guide lines. Next run a vertical guide line through center. The inner curve for the upper part of the body line is then made. From a point of the center guide line draw the inner curve of the top hair line. From the same guide line draw the inner curves of the bottom and center hair lines, then connect these small

curves by larger ones. The outer curve of the center hair line is next made and connected by a small curve with the outer circle. Add the ball to the top hair line. Finally draw in that part of the circular guide line which constitutes the outer construction line of the figure.

7 The upper body line of 7 is almost identical with the tails of 2 and 5, except that it is more extended. After this has been drawn within the boundaries of a square, parallel diagonal guide lines, corresponding to the width of hair lines, are run from the right end of upper body line to a point within a short distance of the lower left corner of the square. The left curve of the lower body line is now drawn from the second lower guide line upward, meeting the first diagonal guide line flush. Next the right curve of the lower body line is made from the lower guide line upward, joining the second diagonal guide line just above the center of the square. The small curves connecting the upper ends of the diagonal guide lines with the upper body line are put in, and then those parts of the diagonals, which lie between the curves, redrawn. The vertical serif at the left upper corner, the bottom line, and the short ends, finish the figure. Attention is called to the extra width of the lower body line and also to its peculiar position, which must appear well poised to balance the upper portion of the figure. The extremes of the curves and points must project above the guide line.

8 In the 8 we have the most difficult of the numerals. Its construction is similar to that of the letter S. A vertical center line and two parallel horizontal guide lines are drawn in the square as for S. The upper and lower outer curves are drawn first, extending just above and below the guide lines. The left outer curve on body line is next made to connect the upper line with the lower center guide line. The lower outer line is likewise connected on the right by a curve with the upper center line. This curve may touch the right side of the square, while the upper curve must recede from the left side of the square, to insure a smaller top than bottom portion of the figure. The inner curves of the top and bottom hair lines are next drawn. Then the inner curves of the body line, running from the center guide lines, and connecting with the inner line of the hair lines. The same radius is used for the opposite curve on inner line of the hair lines. The lower outer curve of the hair line is now extended by shifting the point of compass center to the left. From the extended bottom curve a smaller curve is drawn at the lower left, connecting with the curved body line, near its junction with the lower center guide line. A small curve is likewise drawn connecting the top outer curve with a point at the intersection of the upper center guide line and the curved body line on the right. The result should show a substantial thickening of the lower hair line at the extreme left, and also of the upper one to the right, although the latter should be of lesser width.

9 The construction of 9 is a repetition of that of 6, as it represents that figure upside down, but with two distinct exceptions. First: the upper portion of 9 is shorter than the lower one of 6 and the inner line can be done in one plain circle.

Second: the lower end of 9 is more extended than the top of 6, because of the rule as applied in constructing 3, 5 and 8, *i. e.,* to always make the lower portions fuller than the upper. Therefore the ball end is extended and the ball itself enlarged.

0 The o is identical with the letter O and drawn according to the same principles.

& The construction of the abbreviation mark for "and," &, is explained here, since we have now learned about the figure 8. The & is practically an 8 with its lower portion shifted slightly to the left and a small c attached to its lower right. Run in the lines as for figure 8, taking care to keep the lower portion well to the left. The bottom hook is then drawn and finally the ball end. See that this character is well balanced. The ball end should appear as the continuation of the lower hair line, and the bottom hook as that of the body line.

? The interrogation mark is made, with a slight deviation, according to the rules laid down for constructing the upper part of figure 2. The ball or period must be of a thickness equal to the width of the body lines. The latter principle also applies to the construction of the comma (,) and exclamation mark (!).

Ink work should not be attempted on letters and numerals until proficiency in the copying of their outlines, by pencil, has been acquired. Ink work in the mechanical construction of letters and numerals is done on the following order: the small circles and curves are done first, the larger ones next, then the vertical and diagonal lines are run in, and the horizontals last.

In no case is it permissible to copy a letter or figure from the book, by the use of tracing paper. Nothing is gained by such practice. Your eye must be trained as well as your hand. Freehand sketching is the best means to that end. The construction of the letters and numerals on mechanical principles is done to show how near you can come to the true lines, and also to gain experience.

GENERAL RULES FOR THE CONSTRUCTION OF LETTERS

The letters of the alphabet should appear as much as possible each to occupy the same amount of space. They should be made to *appear* so, to produce harmony. There are certain limitations to this, however. The letter M or the W, for instance, would not look well when squeezed into a space equal to that occupied by an I or a J, nor vice versa. It is the volume of the letter, in its relation to the white space between the letters, that counts.

As a matter of fact hardly two letters of the whole alphabet can be made to fill exactly the same amount of space and look right. Study the characters on plates 2, 3 and 4, "Mechanical construction of letters and numerals" and note how they appear in their finished state, plates 5, 6 and 7, "Modern Roman." To make the proportions of black letters and white spaces as nearly alike as possible is the idea underlying the principles for the construction of letters designed for legibility. To strive to even up space without addition to, or changing the individual lines of the characters, is

to help to make these letters easy to read when they are assembled in words and phrases.

Next to W, A and M, the letters K and X occupy the largest space. Still A *appears* no larger than B, which letter is, in fact, much smaller. The I and J fill the smallest spaces.

The proportions of the Roman letters are based on the square or the circle. All round or circular letters, like O, S, C, &c., should be made to extend a little above and below the line, otherwise they would look too small. A striking example of this illusion is found in the letter R. If the hooked end of its curved tail is made on a line with the lower serif, it will *appear* too short. This is a mistake often seen.

For the same reason the sharp points of the letters, A, V, N, &c., should be extended above or below the line.

The utmost care is necessary to have all hair- and all body- or heavy lines of the letters of equal width.

Accuracy of construction is the chief requirement for drawings of letters, and exactness can best be acquired when enforced at the beginning. When copying letters and numerals from the book take your dimensions deliberately and with care.

The drawing tools and materials should be properly employed, see Part I—"The Drawing Materials," page 9.

Hair lines are the light up-strokes, body lines or down-strokes are heavy lines, as in writing. The round body lines of letters like O, G, B, &c., should always be a little heavier in the middle portion than the straight body lines, lest they *appear* too thin. The width of the curved hair lines, at their narrowest part, is equal to that of the straight hair lines.

VXY Such awkward mistakes as an inverted Y or V or X are frequently met with. They are sometimes committed by eminent artists, proving that these masters do not give due consideration to so important a matter as lettering.

Like the lines of a well constructed building, the letter should be lighter in its upper, and heavier in its lower portion, wherever it can be so constructed. Thus the middle hair lines of B, E and H are placed slightly above the center, and the lower brackets of E, L, and Z made somewhat fuller than the upper ones. B, C, E, G, K, R, S, X and Z are all wider at the bottom than on top, for the same reason.

The above rules together with the principles of mechanical construction on page 31 are given to teach not only the construction of the Modern Roman letters, but all other styles of Roman letters as well. By applying these principles, with a few exceptions as to details, the Antique Roman, French Roman, Ornamental Roman, Block and Plain letters can be correctly made. The rules will also aid materially in the construction of the Roman Italic alphabet, or slanted Roman.

All these styles are described under separate headings, and this article deals only with the method of construction of the letters.

Antique Roman. In this alphabet (plate 11), the serifs vary from those of the Modern Roman letters in that the curves are extended by straight lines, mak-

Plate XI

Antique Roman

ABCDEFG
HIJKLMN
OPQRSTU
VWXYZ &

ing them flat and thinner. The hair lines are also lighter, and the brackets and serifs of C, E, F, G, L, S, T and Z are slightly curved and slanted. The body lines of A, K, M, N, R, V and W show the peculiar pointed extension at the ends, characteristic of this style. There are several other minor deviations, which require no special description as to construction. The student who has acquired the faculty of correctly copying the Modern Roman letters, will have no trouble in reproducing the Antique Roman letters from Plate 11. See "Antique Roman," page 92.

French Roman. In constructing the French Roman letters (plates 9 and 10), the complications are considerably lessened after you have acquired the mastery of the letters of the two former alphabets. The manipulation is very similar to that of shaping the Antique Roman. In fact, the pointed serifs and ends of the French Roman letters require a good deal less work. Being extremely graceful, these letters demand delicate handling. To reproduce them correctly is a matter of great accuracy, as the slightest deviation from the clean, sharp line or perfect curve would, of course, prove fatal.

See "French Roman," page 89.

Ornamental Roman. To construct the curved serifs of the Ornamental Roman letters (plate 12), is a simple matter and requires less accuracy of execution than the straight end strokes of the Modern Roman, in that slight deviations are not at once apparent. Even when fairly well done, the effect is highly ornamental. This goes to prove that a few ornaments can hide a number of defects, and that a plain letter is generally the hardest to make. In all other essentials the Ornamental Roman letters are made exactly like the Modern Roman. The appearance of the letters can be varied by adding balls to the ends of the serifs.

See "Ornamental Roman," page 92.

The Block letters (plate 18) are practically Modern Roman with all the lines of equal thickness, and therefore much easier to make than the latter style. The principal thing to observe, in its construction, is to get all parts of the letter of even width. Square guide lines are drawn for the construction of Block, as for Modern Roman letters, but the upper and lower inter-guide lines are placed as far from the outer ones as the width of the body lines. When drawing the Block letter run all inner lines parallel with the outer ones, as in the drawing of the body lines for Modern Roman. On account of the heavy serifs, the cross bar of A is placed somewhat higher than in Modern Roman. The serifs of K, X and Y are perplexing, because of the great slant of the diagonals. This difficulty may be avoided or lessened by decreasing the widths of the lines of all letters. The block serifs should be nicely squared and care taken not to have them too long.

The principles of construction laid down for the Modern Roman letters, may be applied in a slightly modified manner. See "Block" letters, page 96.

Square Block. A style of Block letter, constructed entirely of straight lines, except the round corners, is made similar to the Square Plain letters, plate 16.

Ornamental Block, (plate 19) is a Block letter with curved serifs, as in Ornamental Roman. For principles of construction see "Block," above. The drawing of the serifs needs no special directions.

See "Ornamental Block" page 97.

The Plain or Condensed, Round. These letters, (plate 15) are designed to meet the requirements of convenience and economy.

They can be made, according to squareness or circularity, on the principles of the Modern Roman. That means that letters like B, D, H, &c., may be made approximately as wide as a square, and round letters like C, O, S, &c., to just fill a circle. A, K, M, V, W, X and Y should then be made wider, of course, as in the Modern Roman, but the letters E, F, L and U are exceptions, and should be narrower. See "Architects Single Stroke Alphabets," plate 20, Alphabet 1.

As the Plain letters are intended for a smaller space, however, they are generally narrowed down to four-fifths of their height, and can be made still narrower. A glance at plates 15 and 16 will show that the widths of letters B, C, D, H, J, N, P, R, S, T and Z are normal, as above, E, F, L and U narrower, and A, G, K, M, O, Q, V, W, X and Y wider than four-fifths of their height. Draw guide lines as for Block letters.

Do not make the Plain letters too heavy.

Plain, Square. A variation of the Plain letter is made square, with straight lines and round corners. (Plate 16). All round letters are done in straight lines also, making their construction very simple.

Another variation has no curves at all, the corners being slanted off with straight lines. This style is much used in wagon lettering. See also article on "Plain" letters, page 93.

Plain, Spurred. (Plate 17). Although but a Plain letter with pointed serifs or spurs added, this style can be made to appear decidedly different from the former.

The letters are constructed on the principles of the Plain or Condensed letters, as above, with the exception of A, M, N, V and W, whose body lines are brought together to a sharp point, as in the French Roman. Another deviation are the slanted serifs of letters C, E, F, G, J, L, S, T and Z, necessitating contraction of the curved parallel lines at the ends, in order to make the connection for the point.

The spurs should be made sharp and short, and all be of equal proportion.

Roman Italics, (plate 14). After the construction of the Modern Roman letters has been mastered the Roman Italics offer no difficulties to the student. Instead of dividing the drawing paper into squares composed of horizontal and vertical guide lines, as for Modern Roman, the guide lines are run in diagonally, giving them the slant required by the Roman Italics. They should be placed at an angle of about thirty degrees, so as to form diagonal parallelograms of a width of three quarters their height.

The curves of the letters of this alphabet may be drawn freehand, using the writing pen, and only

Plate XII

Ornamental Roman

ABCDEFG
HIJKLMN
OPQRSTU
VWXYZ &

the straight lines made with the ruling pen, guided by the T-square and triangle edge.

Mechanical construction of the curves can be resorted to in extreme cases, if the letters are very large, but this style of lettering never looks well except when done with a light and graceful swing, and by using the instruments for their construction they are liable to become stiff and awkward in appearance. For these reasons it is not advisable for the student to attempt the reproduction of the Roman Italics until a certain manual skill and confidence has been acquired, which cannot fail to result after all the previous alphabets are mastered.

The Roman Italics should be studied and practised in lead pencil first. The method of construction is as follows:

After sketching in the letters with pencil, the straight down strokes or body lines are drawn along the T-square and triangle edge. Then, with a pencil or the writing pen the curves are drawn, observing that all hair lines and all body lines are of even widths.

A The lines for the body line of A are drawn as above, then the hair line from the top down, with a gentle, easy swing, ending with the small ball. This flourish may be extended according to fancy. The cross bar and bottom line of the serif are drawn with the T-square guide and the curves of the serif finished freehand.

B The diagonal body line of B is made with the triangle and the upper hair line started from the top, with a swing to the left and a slight thickening near the end. Begin again at the same point of the top hair line, turning to the right and continuing with the curved outer body line to the center and thence again outward and down to the lower guide line. Then the inner curves are made. The lower horizontal hair line is drawn along T-square edge and the curves of the serifs done as above.

C C is begun at the top, and the outer curve made with one clean sweep of the pen or pencil. The lower end is slightly accentuated by a back stroke. Beginning again at the upper hair line and going towards the right, the curve is finished with the serif. The inner curve is finally drawn from the top down.

D E F G The manipulation for D is similar to that of B. E and F are drawn with triangle and the T-square except that the serifs can be done freehand. G is made like C first and then the lower bracket or body line is drawn with the triangle and T-square, and the serifs drawn as before.

Remember the rule concerning the thickness of round body lines, as given in "Mechanical construction of letters and numerals," page 31.

H I H and I are done with the help of the triangle and T-square, as above.

J The diagonals for J are made with the triangle and the lower curve put in, from left to right, and finished with the ball. Then the top serif is done.

K The first body line for K is drawn as before and then the hair line, beginning at the top. The ball end is next finished and the lower body line done along the triangle edge. Then make the serifs.

L The L is drawn by the use of the triangle and T-square, except the bracket and serifs, which may be done freehand.

M N The hair lines of M and N are done freehand and the ball is finished similar to the first line of A. The ends may also be extended. The other parts of the letters are drawn with the triangle and T-square guide, and then the curves of the serifs made.

O The O is done by starting at the top and sweeping toward the left and down and around to the right, then starting at the top again and moving toward the right and down, uniting with the first stroke. The inner curves are then run in, from the top downward.

When working with ink, the C, O, Q and S, also all numerals except the 1 and 4, can be made entirely with the writing pen.

P Q P and Q are made similar to B and O. R is a repetition of P, and then the R lower body line or tail is drawn by starting the outer curve at the center and running it down below the line. The inner curve is then made from the center down, in one stroke to the end. A fine, graceful swing of this curve must be produced, and the extent of the flourish is optional.

S S requires thoughtful study and prolonged practice, as in Modern Roman. Start it with the upper curve, from left to right. Then draw the lower curve, from left to right and upward. Start again at the point of beginning of the upper curve, running downward and then to the right and down again in one sweep to the lower curve, thus describing the lower line of the body line. Begin once more from the top, for the upper line of the body line, and unite with the lower curve. The curves of the body line must not appear too flat. The letter is finished by putting in the serifs.

T The body line of T is made and the brackets and serifs done as with previous letters. The brackets must be as nearly alike as possible, and the one on the right must not appear too heavy.

U U is made with an upward swing of its hair line, similar to the first hair line of A, but running in an opposite direction. Make the body line first, from the top down, and then the hair line, also beginning at the top and uniting with body line below.

V W V and W are done similar to other letters as described above. The correct slant of these two letters is of importance.

X Y X and Y are also difficult as to getting the slant to appear in line with the other letters.

The hair lines of all these letters are capped with a ball, as before.

Z The diagonal body line of Z having an extra slant, great care is necessary to balance the letter well, as against the slant of the other letters.

For the numerals a free interpretation of the construction of the Modern Roman numerals, by methods as above, will be found sufficient direction.

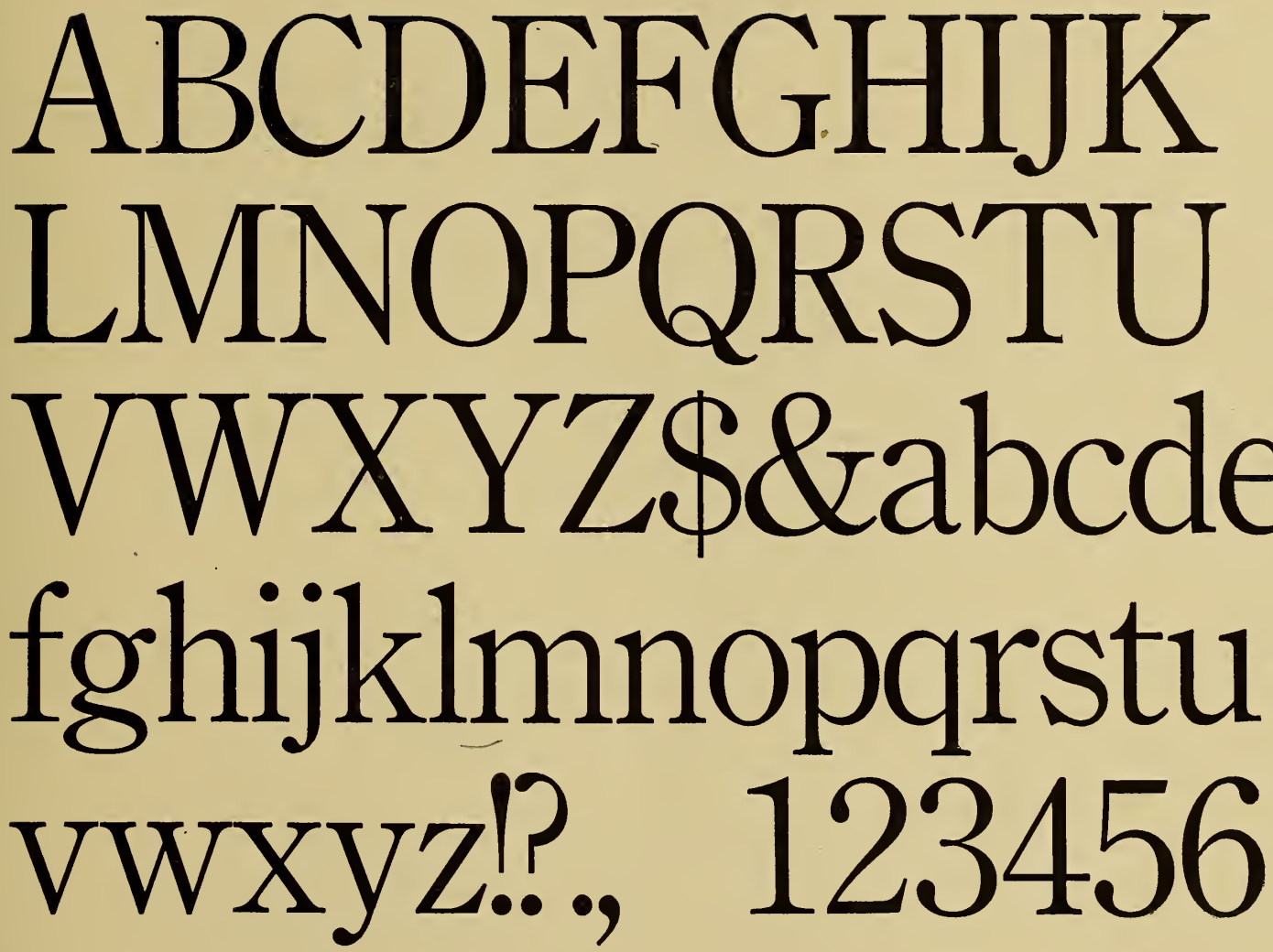
Sign painters and decorators can make use of this method of lettering by substituting the brush stroke for the pen stroke.

Plate XIII

Century Roman

Modern Type

(American Type Founders Co.)


ABCDEFGHIJK
LMNOPQRSTU
VWXYZ$&abcde
fghijklmnopqrstu
vwxyz!?., 123456

See also article on "Roman Italics," page 93, and "Architects' Single Stroke Alphabets," page 112.

For lower case Italics see "The Lower Case Letters," page 74.

Modern Gothic, (Old English) plate 23, shows the Modern Gothic types, and also the correct letter shapes, drawn for comparison.

Although built upon a foundation, entirely foreign, and representing another school, the lines of the Roman characters can unmistakably be traced in the Modern Gothic letters. For this reason the previous study of the Roman alphabets has a beneficial influence upon the student, seeking to master these apparently complicated characters.

Many and varied are the exterior decorative flourished ends and scrolls, devised for Modern Gothic, and the styles used are often badly mixed. The Gothic alphabet shown in instruction books presents many letter forms of different characteristic treatment.

All letters are composed of straight or curved parts. These parts or features recur in most letters of a family, and they should always be made uniform in appearance. To present these features correctly and without variation, is to make the letters plain to read and easy of construction.

In studying the individual letter forms of Modern Gothic, it will be noticed that many parts are merely added as ornamental. A, for instance, would still be plain A, without the second hooked flourish or dash attached to the upper part of the hair line, and even without the first. Likewise the top dash of B, F, H, K, L, P, R, W and Y is unnecessary, but adds to the ornamental expression of the letters. The second of the double first body strokes in B, F, H, I, K, L, R and S might also be dispensed with, and the remaining component parts would still constitute a letter. But inasmuch as the Modern Gothic letters, as also the Uncial capitals, are designed and used chiefly for ornamental lettering, all parts serving as an adornment are indispensable.

First of all we will apply the principle of squareness and circularity. C, E, G, O, Q, S and T are round letters, the others may be classified as about filling a square.

Divide the drawing paper into equal squares, as for Modern Roman, and add a horizontal center line, but no further guide lines are required. The outlines of the letters are drawn in pencil and practised until all letter forms have been mastered. All hair lines are very fine and sharp, and the body lines all of uniform thickness.

The structural lines of A are sketched into a square, care being taken not to spread the letter too much, and allowing space for the lower flourished hair line. The diagonals are drawn similar to those of the Modern Roman letter, then the lower curved tail is added, and the two upper dashes. The center cross line is finally put in.

The outlines of B are sketched by first copying the second vertical body line, then connecting it with the upper curved and lower vertical body lines, followed by the lower tail or dash, similar to that of A, but elongated, thus forming the frame of B. The first vertical or sub-body line with its short dash and

the upper scroll are then drawn. Note that the two first vertical body lines run parallel to each other. The ornamental central hair lines are drawn last. The upper dash or scroll recurs in many other letters, and should invariably be shaped alike. Also the vertical twin body line, wherever it occurs, is always the same. The lower flourish or tail, present in most letters, should be of the same radius in every instance, though varying in length.

The first body line of C is semi-circular. This line is repeated in E and T, and in a modified way, in G, O and Q also. The vertical body line, akin to the second one of B, is entirely straight. The size of the short upper dash must be restricted, to balance the lower extremity of the semi-circular body line. This small dash is again shown in many of the following letters. A lower semi-circular hair line is added below the line to balance the flourish of the other letters.

The top dash is continued in D, and combined with its second vertical body line.

E is a C with a short center dash added, which must be placed slightly above the center line.

F also presents a repetition of the features of former letters. The exterior ornamental hair line may be run below the line. The short central cross line is placed opposite the dash of the first vertical body line, giving it the appearance of a continuance of the same.

G is made similar to C, but its upper dash is connected by a diagonal hair line, and the first curved body line narrows down to a hair line in its lower portion, and connects with another semi-circular body line. The end of this line is connected with the diagonal hair line above the center line.

H is a repetition of parts of former letters, except the third vertical body line, which is started at about the center and carried, in a curve, below the lower line.

I shows the features of former letters, but its lower dash is placed farther toward the left.

The letter form for J being absent in the Gothic alphabet, the I is generally used in its stead.

K is like H, but a new feature is introduced in place of the third vertical body line. This short, curved body line is started from a diagonal hair line, placed slightly above the point of that of H, and is connected near its lower end with another, but nearly rigid body line, similar to the lower part of the diagonal body line of A. The letter R shows a similar feature.

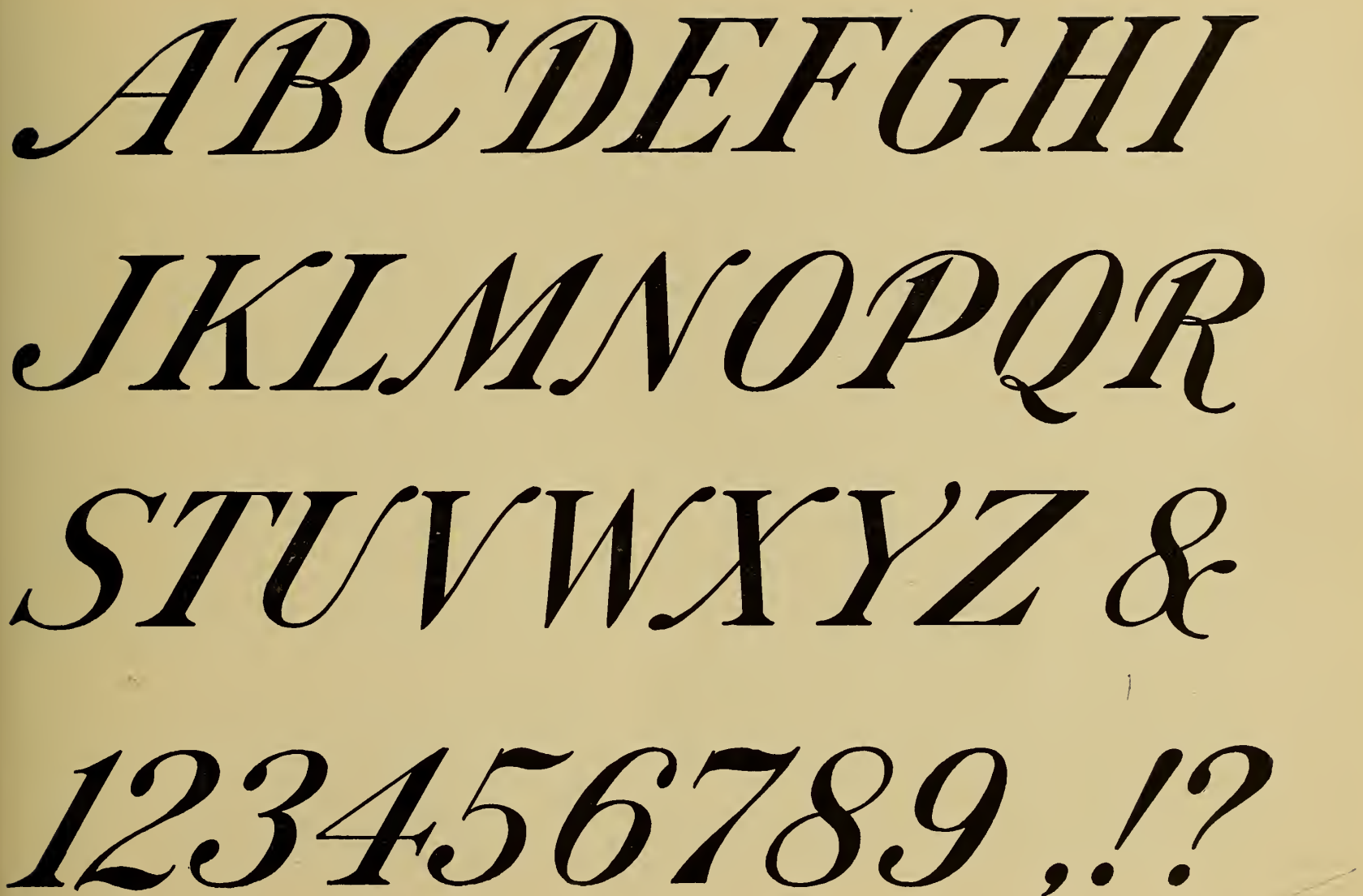
L shows parts of former letters, but the lower scroll, to give expression, is somewhat elongated and shifted toward the right.

M, for reasons of harmony, has only a single first body line. The second and third vertical body lines are new features. The former is nearly straight, and the latter, started with a slight curve at the end of the familiar upper dash, is carried down, with another short turn, to the lower line. Nearly all these features are present in W. N presents parts of M. Features of G are employed for O, and the third body line is started with a heavy, curved stroke, from the top down, uniting with the first.

The new feature shown in P is the extended first body stroke, which is brought down to the extreme

Plate XIV

Roman Italics


ABCDEFGHI
JKLMNOPQR
STUVWXYZ &
123456789 ,.!?

line of the lower scroll. The second vertical body line is connected with the lower dash, as in D.

Q is O with an additional lower dash. This is connected with the middle vertical body line and the ornamental lower curved hair line is omitted.

R is a repetition of parts of the principles of B, but the fourth straight body line is run downward, similar to the one of K, and not connected at the lower end.

S requires special study. The twin curved center body lines, resembling the curvature of the body line of the Roman S, must run parallel with each other. A good plan is to draw the two lines as one heavy one, and then separate them by drawing lines through the center. Note particularly, that the upper portion of the letter is smaller than the lower. The position of the diagonal hair line and its connection with the lower scroll must be carefully studied and persistently practised.

T is C with its upper dash extended toward the left and curved downward.

U shows no new features other than the position of the parts, and the squaring of the second vertical body line, resembling the middle body line of M.

V and W both present features from D and M.

X shows singular treatment. The diagonal body line should be gracefully curved, to prevent a too rigid and stiff appearance. The position of the diagonal hair line, and the points of connection with the upper and lower dashes, must be carefully observed.

Y represents parts of V. The first vertical body stroke, however, is brought down to the line, with a short turn to the right, similar to that of the middle body line of M, but without corners. The second vertical body line is curved toward the left, near the lower line, and continued in a hair line, connecting with the first body line, and carried toward the left and downward, thickening into a heavy, curved stroke, turning again to the right, and downward again, finally narrowing into a hair line.

Z is a combination of parts of B and D.

See also "Modern Gothic," page 97.

German Gothic. (Plate 22.) The letters may be considered somewhat wider than a square, but the guide lines for their construction should be laid out in squares. The inter-guide lines are placed as far from the outer ones as the width of body lines.

The letters are sketched within the squares, the vertical body line of A, I, J, N and U leaning against the right side of the square. The second or double curved body lines of B and R, and the right extremes of body lines of S, X and Z may also be placed against the inner right line of square. The first vertical body line of H, K, L, P, V, W and Y are drawn against the left side of the square. The central vertical body line of C, D, E, F, G, M, O, Q, T and W should occupy a position in the center of a square.

The first scrolled body line of A is similar to that of B, R, N, U, W and M, although more condensed in the last named letters, and, more elongated, the same feature is present in D. The lower or basic body line of A recurs, in various lengths, in nearly all the other letters. The vertical body line of A is represented again in U. The central vertical line of C

is shown also in D, E, F, G, H, I, J, K, L, O, P, Q and T. C, E and T are similar in construction, and G, O and Q nearly so, as with the Modern Gothic. The scrolled bar on the upper left of F, or the plain one of P may be added to the letters H, K and L also. The feature of the top bar, connected with the right curved body line of G, recurs in Z. The positions of the upper and lower curved body lines of K and R are similar, as are the parts that constitute the letters M and N, and those of V, W and Y.

All diagonal hair lines should, as nearly as possible, run parallel. The scrolled hair line ornaments must be carefully sketched out.

See also "German Gothic," page 100.

Modern Uncials (plate 24). The construction of the Modern Uncials is a very complicated matter. Of the rules governing the proportions of the Roman letters, only the principle of squareness or circularity can be applied.

There are, however, certain pronounced features, which recur in most of the letters. The place of the vertical rigid body lines of the Roman letters is taken by gracefully curved lines, tapering to a slender stem in the middle portion. The semi-circular body lines show the characteristic Gothic pointed arch.

Draw guide lines as for Modern Roman letters.

Those of the letter forms, presenting the lines of the Roman capitals most unmistakably, as B, D, F, G, I, L, O, P, Q, R, S and Z, may be constructed on principles similar to the Modern Roman letters, but the absence of vertical lines makes their application difficult. The tapered uprights, shown in most letters, are all of the same proportions. Of like dimensions are also all semi-circular body lines, as in C, D, E, G, M, O, Q, T, U and W. The comparative thickness of hair lines and body lines is the same as in the Modern Roman. The construction of the peculiar ornamental appendages of characters like A, C, E, H, etc., should be studied from the plate. Their proportions are arrived at by comparison. The brackets, crowning A, H and K, may be constructed alike. The one of A extends from right to left, those of the others from left to right. The brackets of L and F are of similar curvature, but those of Z present rigid lines. The treatment of the hair lines and serifs of C and E is almost identical. The position of the second, or semi-circular body line of H must be carefully determined. It may be compared with the second body line of the bracket of G. The middle hair line of K is started like that of H, but makes a short turn to allow for the second straight body line. M is made under a repetition of previous principles. This letter form, turned upside down, represents W. N and U resemble lower case letters. The second body line of N, as that of V and Y, are of peculiar treatment. The dash or tail of R, like the first stroke of A, shows special embellishment, but it may be made plain, and the downward flourish of A can be restricted to the lower line by constructing it similar to the last body line of N, reversed. S is in pronounced Roman lines, but the T shows the Gothic character. Compare the second body line or bracket with those of G and H. The upper straight bar is of odd appearance but simple construction. V and Y are of kindred shape, and X

Plate XV

Plain, Round

ABCDEFG
HIJKLMN
OPQRSTU
VWXYZ&

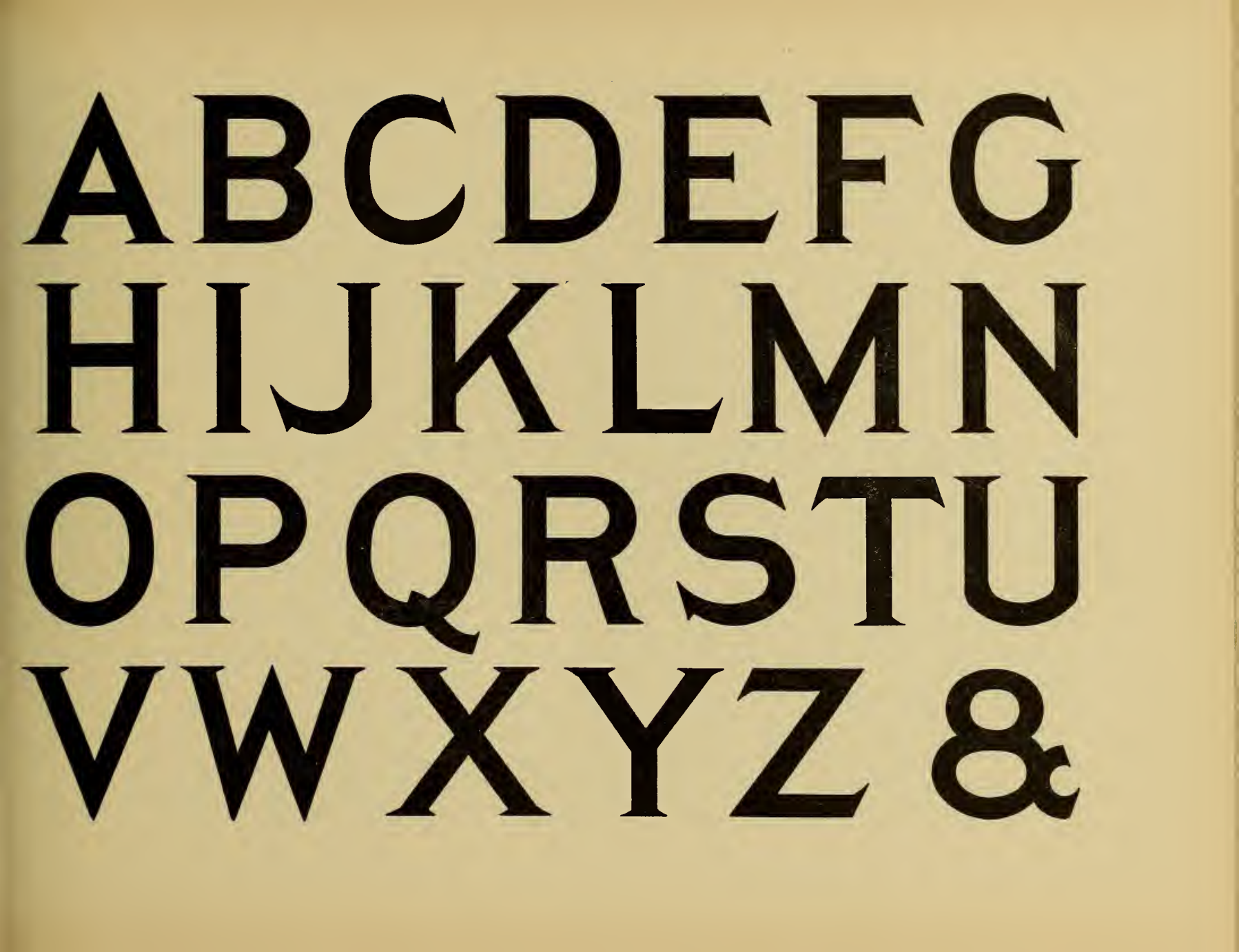
Plate XVI

Plain, Square

ABCDEFG
HIJKLMN
OPQRSTU
VWXYZ&

Plate XVII

Plain, Spurred


ABCDEFG
HIJKLMN
OPQRSTU
VWXYZ&

and Z differ but slightly from their Roman cousins. The ball serifs are similar in all letters. See also "The Modern Uncials," page 101.

The Lower Case Letters. (See also article on "The Lower Case Letters," page 97.) All lower case letters are constructed according to the rules laid down for that of the corresponding capitals.

Modern Roman Lower Case. (Plate 25.) Like those of the capitals, the dimensions of the small Modern Roman letters are based upon the square or circle. The thickness of body- and hair-lines is made a trifle less than that of the capitals. Serifs and other details are proportioned likewise, and it is necessary to study the construction of the capital letters of a certain alphabet first, before attempting to draw the lower case letters, because the rules for constructing the former may be generally applied to the construction of the latter.

In laying out lower case lettering, special space allowance must be made between lines, to give room for the letters, g, j, p, q and y, extending below the line.

The guide lines for all Roman lower case letters are drawn as for the capitals, but additional middle- and sub-guide lines are required for the lower case letters and the squares are proportionately smaller. (See "Guide Lines," plate 1.)

Letter a is sketched within a square, under rules similar to those given for the capitals. (See "Mechanical construction of letters and numerals," page 31.) All letters are drawn freehand, and finished with the aid of the instruments. The vertical lines are drawn first, then the curves, and the horizontal lines last.

The a is finished with the top ball and the lower serif, extending outside of square.

Fill all squares of the first row with copies of the letter a, leaving an intervening space between the sub-guide line and the top guide line of the next row, into the squares of which the letter b is reproduced, and so on to z.

Always look for information as to construction rules under the heading "Mechanical construction of letters and numerals," page 31.

The b is started with the vertical lines, and the curves are added. The serifs are put in last, extending outside the square.

The c is drawn wholly within a square and finished with the top ball. Note that the end of the lower hair line is slightly thickened.

The d is manipulated like b.

The e may be constructed like c, but it is wider than the former.

With f care must be taken not to make the curved top as wide as the other letters.

The g is a very difficult letter. The top oval is drawn first, then a larger oval below, and the double-curved lower body line constructed similar to the body line of S. (See under "Mechanical construction of letters and numerals," page 31.)

The construction of the other Modern Roman lower case letters requires no special directions other than those given for previous letters. The proportions of m and n, however, should be studied well. Do not leave the spaces between the three

body lines of m as wide as that between the two body lines of n. The proportions of v and w should likewise be observed.

French Roman Lower Case Letters. (Plate 26.) This style of lettering looks especially well, when the end-stroke of letters h, k, m, n, &c., is drawn out with a graceful swing, extending below the line, when it occurs at the end of a word. Experience, however, is necessary to accomplish this successfully. When used in composition for inscriptions the letters must not appear cramped. Sharp serifs and graceful lines are the prominent features of this style.

The French Roman lower case letters are constructed on similar principles to the Modern Roman small letters. Hair- and body-lines must always be of uniform widths. It will be noticed that this is the only Roman alphabet whose lower case letters have serifs instead of balls, as in a, c, f, j, &c.

Antique Roman Lower Case Letters. (Plate 26.) The length of the upper stems of b, d, f, &c., should be greater than that of similar letters of the other alphabets, because the slanted serifs cause them to appear shorter than they are. In other respects these letters may be constructed under rules similar to those given for the Modern Roman lower case letters. See also "Antique Roman" capitals, page 51.

Ornamental Roman Lower Case. (Plate 29.) The principles laid down for the construction of the Modern Roman lower case letters can be applied to that of these letters also. The curved serifs are added, as with the capitals. (See "Ornamental Roman," page 54.) No other directions are required.

Plain, Round, Lower Case. (Plate 27.) The construction of these small letters is subject to the same restrictions as given for that of the capitals. Care must be taken not to make the letters too heavy. They appear more graceful when thin. The guide lines for all Plain and Block lower case letters are drawn similar to those used for the Roman lower case letters, but the upper and lower inter-guide lines, as well as those of the upper and lower sub-guide lines are placed as far from the outer ones as the width of the body lines.

Plain, Square, Lower Case. (Plate 27.) Similar rules obtain for their construction, the proportions being the same. Like their capitals, these small letters can be made entirely by the use of the instruments.

Plain, Spurred, Lower Case. (Plate 27.) The tendency to make the spurs too long and flat should be guarded against. In all other essentials the Spurred small letters are made like the Plain, Round, lower case. See also the capitals under "Plain, Spurred," of this part.

Block and Ornamental Block, Lower Case. (Plate 28.) The construction of both require no special description, since it would be but a repetition of the methods employed in the reproduction of the capitals and other lower case letters above described.

Roman Italics, Lower Case. (Plate 25.) The construction of single stroke lower case italics is a matter of confidence derived from experience and supplemented by ability in penmanship. The letters should be executed in an even running hand and they look best when small and set closely. When so

Plate XVIII

Block

ABCDEFG
HIJKLMN
OPQRSTU
VWXYZ &

Plate XIX

Ornamental Block

ABCDEFG
HIJKLMN
OPQRSTU
VWXYZ &

made, this style of lettering is plainer and reads more easily than the plainest writing.

When large lettering is desired, the lower case Italics may be executed by drawing double body lines, similar to those of the capitals, as given under "Roman Italics," page 55. The method described hereafter is for smaller letters.

For larger lettering the lower case letters should be sketched in, aided by diagonal guide lines, as described for the construction of the capitals, except that a middle- and sub-guide line is added.

The small Roman Italics are well adapted for the use of architects, and may be employed in conjunction with the special Architects' Single Stroke alphabets described in another part.

The single stroke lower case Italics are not practised with the pencil, as they represent a style of pen stroke letters. All lettering is sketched in with the pencil first, to insure correct spacing. The result to be aimed at, and which can only be acquired by experience, is an even slant and thickness of all letters.

The a is started by the down stroke from the top toward the left and down, and continued upward again, as in writing. Begin at the starting point on top again and run a hair line toward the right and down, meeting the first hair line, as in o; then begin again at the top, for the straight, heavy body line, running it down and continuing it up again with the short end hair line, which may be slightly emphasized by a light back stroke at the end.

All hair lines may thus be thickened at the ends, both at the top and bottom.

Start the end of the hair line of b at the top, running it downward. Then, again starting at the same point, run in the straight body line, continuing it around to the right and up. Beginning again at the right of the lower part of the body line, move upward and curve to the right and down again, meeting the former hair line.

Start c with the top hair line, running towards the left and continuing downward and up again, and with a slight back stroke at the end, then put in the top ball with a short down stroke.

The d is constructed like a and b, and e as c, followed by a slightly thickened center hair line, from the top downward and to the left.

Starting from the top, run f down with a graceful sweep and end with a ball or period, then finish with the top ball and the short cross hair line.

Make g like a, continuing the straight body stroke down and around towards the left, and upward again, finishing with the ball.

Start h like b, and finish as with d, also i and j as with previous letters.

Make first stroke of k as for h, then, starting a diagonal hair line at the top and running downward towards the left, unite with the body line. Start a short body line from the center of the hair line, running it down and finishing as for h. Finally put in the ball at the upper right.

Construct l, m and n as in former letters.

Begin o as for the first stroke of a. Then, beginning again at starting point, run toward the right and downward, uniting with the lower hair line.

Draw p, q and r as previous letters.

Start s with the top hair line, as for c, then curve

toward the right and downward. Starting again with the lower ball, run down and toward the right, uniting with the curved body line, and finishing with the top ball.

Make t and u as in former letters.

The first stroke of v is as in u, the upper hair line running upward and to the right, with a generous thickening, thence downward and uniting with the first stroke. The w is the same as before.

Start x as for i, but run the body line down nearly vertical. Then start hair line with the top ball, running it down through the body line, toward the left, and finishing with the lower ball; make y as in former letters, and z starting with the top curved body line from left to right, follow with the diagonal hair line running downward, then the lower tail, and finishing with the short center dash.

Modern Gothic Lower Case. (Plate 29.) This may be used together with either the Modern Gothic capitals or Uncial Initials. The proportions of these letters may be compared with those of the Plain, Spurred, lower case letters. The small Modern Gothic letters are composed almost entirely of straight lines.

Draw guide lines as for the Plain lower case letters.

Great accuracy is essential for the correct rendering of these letters. The body lines must all be of even thickness, and the hair lines sharp and fine. All pointed corners should be made very sharp, and the slanting lines, where they recur in similar letters, be parallel to each other.

Do not make the body lines too heavy. Narrow lines give these letters a more refined appearance.

The short upper dashes of c, f and s, and the long lower ones of g and p as well as the lower scroll of y, must all be made to correspond with those of the Modern Gothic capitals.

The lower case Gothic letters show two forms of the letter s. The long s is used within a word only, and never at the end, while the small or round s can be employed in either place.

The peculiar construction of the hair lines of a must be carefully studied and practised. The scrolls on the ends of the stems of b, h, j, k, l, p, q and t are for ornamental expression. They may be omitted and the letters finished by a slanted line.

Modern Gothic lower case letters look well when set closely.

German Gothic Lower Case. (Plate 29.) These letters, designed especially to be used with the German Gothic capitals (plate 22) will also give a harmonious effect when combined with the Modern Uncials or Church Text. (Plate 24.)

Being composed almost wholly of straight lines, their construction is very simple, and, after the principles of the Modern Gothic lower case letters have been studied, these letters can be produced forthwith.

Guide lines are drawn as for the small Modern Gothic letters.

Great accuracy of proportion and execution is required to correctly reproduce these letters. All diagonal lines run perfectly parallel throughout the alphabet. The hair lines are heavier than those of

Plate XX

Architects' Single Stroke Alphabets

ABCDEFGHIJKLMNOPQ
RSTUVWXYZ &
abcdefghijklmnopqrstuvwxyz

ABCDEFGHIJKLMNOPQRSTU
12345 VWXYZ & 6789
abcdefghijklmnopqrstuvwxyz

ABCDEFGHIJKLMNOPQ
RSTUVWXYZ &
abcdefghijklmnopqrstuvwxyz

the Modern Gothic lower case letters. Observe that the long s is never used at the end of a word.

In arranging letters of this style, they should be placed close to each other. See example on plate 35.

Modern Script. (Plate 21.) Script, when used for purposes of lettering, is handled in a different manner than in writing. Good penmanship does not at all insure the ability to construct good Script *lettering,* and again: a student with a poor handwriting may soon acquire a marvelous proficiency for lettering Script.

Begin by practising large Script letters on brown paper. Lay out one letter at a time, with long, firm strokes and whole-arm movement. Use only your eyes and hand as guides. Improve on the lines drawn, and correct the less graceful ones. Always try for perfect ovals.

Being generally constructed on an enlarged scale, the lines should invariably be started at the top and run downward with a determined sweep. All upstrokes are likewise made from the top down. Careful sketching in lead pencil makes the final execution of this difficult work one of pleasure. The pencil lines must be examined critically, and all ovals, especially, made as smooth as possible, before inking in. Large Script lettering may be executed in ink with a fine, long-haired brush.

The sign painter should practice Script lettering on a board, with a stick of chalk or charcoal. The letters are drawn out large, with a free-arm motion, and in rapid, clean, long swings. Standing off a few paces, the effect may then be studied. Confidence will thus be assured, eventually, by persistent practise. The lower case letters are practised in a similar manner.

The main difficulty in lettering a line of Script is to give an even slant to all the letters. Experience, gathered from conscientious practice, will eventually overcome this also.

Clean, fine and even lines are essential to bring out the beauty of Script lettering.

When Script is to be introduced among lines of other types of letters, much space is required to give it a good appearance. Leave a generous margin above and below your line of Script.

Freedom of treatment. Lettering should never appear harsh and stiff. Correctly constructed, it may still lack a certain dash and finish. This point of perfection is reached only after the technique has been acquired. Then an artistic abandonment of the stringent rules of mathematical drawing, a gradual breaking away from the strict methods of the school, occurs of itself.

It is at this stage of the development of his ability, that the artist is most liable to run to extremes. Here the student should be cautioned to keep before his mind's eye the classic originals of the letters, and, while developing a freedom of treatment, to preserve that quality in the shape of his letters, which will ever appeal to the refined taste of competent judges.

Letters have varying expressions, somewhat as human faces have. You must try to make them pre-

sent a pleasing countenance. Crooked letters are defective in expression; they sometimes appear ludicrous.

Occasionally letters also appear to dance, standing, seemingly, on one leg and raising the other. This happens when they were not correctly drawn. When properly constructed, they stand still, and look as you intended that they should.

Letters have speech. See that they speak a dignified language; do not permit them to shout.

PART III—THE ALPHABETS

Practical and Artistic—Their History, Description and Proper Use

The Roman Alphabets

No little confusion is created by various books on lettering offering so many different names for letters of practically identical alphabets, merely slightly modified or changed. These are labeled for enlightenment: "IX century," or "From a tomb in the —— church." Moreover, nearly every "authority" has his own style of lettering nowadays, and new names are applied to old styles. Take the Plain or Condensed letter for instance. (Plate 15.) This style is called in some books of alphabets "Egyptian"; by other instructors "Gothic." The same letter parades under several other aliases. Now the name "Egyptian" would suggest the ancient hieroglyphs, but there is nothing in the construction of this letter which in any way relates to the symbolic characters of that sacred figure script. "Gothic" is a style of letter, showing the characteristic, sharp-cornered forms of the Pointed and many-gabled Gothic architecture. (Plate 23.)

Our "Plain" letter is nothing but a condensed form of the Roman alphabet. All the letters used in the civilized world to-day have emanated from the Roman capitals, even the Gothic characters being traceable, however remotely some of them may resemble their original shapes, to the same source. This fact the student of lettering should not lose sight of. The many queer and corrupted styles of an intervening period, when wars devastated the countries of Europe, and arts and sciences were lost or neglected, have no value as examples for learners, bent on cultivating an acquaintance with good letter forms. On the contrary, these faulty letter shapes are most harmful to study from, and should not be placed in books of instruction.

Out of the chaos of some hundred conflicting styles of Roman alphabets—so-called, the Classic Roman capitals stand out prominently and beautifully (plate 8), among the many positively ugly styles of a later, degenerate period.

The Classic Roman Capitals have been preserved

Plate XXI

Modern Script

to us upon the ruins of ancient buildings, such as the columns and arches in the Forum Romanum in Rome, and on numerous tomb inscriptions. Capital letters only were used by the Romans, the small or lower case letters being devised at a much later period. The marvelously beautiful and graceful lines of Greek and Roman architecture are constantly studied and copied by our modern architects and builders, and it is but natural that the ancient letter forms also have been revived and are universally employed to-day for architectural inscriptions, memorial tablets, &c.

Like many beautiful things, however, the Roman letters of the Classical period present deficiencies, the principal one being the absence of several letters contained in our modern alphabets. Although ideal in form and outline, the primitive Roman capitals, however appropriate in their day, are lacking in harmony of proportion, and at our advanced age we must aim at greater perfection. With the world's art specimens before us to study from, we should refuse to accept the crude methods of an ancient time. Since the days of the Italian Renaissance therefore, Classic letters have been greatly modified and are still being improved, for ours is an age of constant progress and improvement.

We cannot claim originality in the production of letter shapes. The letterer of to-day copies from forms which have been in existence for centuries; he but continues to enlarge their artistic possibilities. He takes the letters as handed down, and works out the shapes according to the progressive ideas of an advanced era. It is cultivation and education that has taught him to see and enabled him to judge; the museums and galleries have furnished him with the art treasures of all ages and nations, in order to study and compare the different styles, and thus enlarge his horizon. He has before him endless variety of alphabets and letter shapes, and the product of his studies and skill is the refined and finished letter of the present time. The old masters could not boast of such privileges, and their work, therefore, being original and the product of their own inventive genius, should be held in so much the higher esteem.

The letter forms J, U and W were unknown in ancient Rome, V standing for both U and V, and the W having been later devised by making a double V, as the name implies. This letter form V being employed also to express U is one of the objectionable features of this alphabet (REVVE). By reason of its incompleteness the Classic Roman alphabet should not be employed in advertisements, nor on street signs, name plates, etc., which demand a more legible style of letter. It is a pitiful spectacle to see stran- (COLVMBVS AVENVE) gers standing at the street corners of the city, vainly trying to spell out the names.

A modernized form of the Classic Roman is much in vogue with our artists, for book-plates, newspaper-headings, &c. (See plate 31.) These are very handsome letters, but, unfortunately, all the shortcomings of their originals have been retained and even emphasized. Among these is the unwise practice of constructing each letter of different width, the B so much narrower than C and D, the N

unreasonably drawn out, and the S condensed to less than half of the square.

Of the exaggerated modern styles of Roman letters perhaps the less said, the better. A few examples of the letter U, freakishly distorted, are also represented on plate 31.

Modern Roman is a type of letter evolved from the Roman capitals, modified and perfected, retaining the beauties of its classical originals in all essentials, with their inconsistencies and deficiencies corrected. It is at once the most legible and most generally used form of letter known.

Modern Roman (plates 5, 6 and 7) is the alphabet we all are familiar with, being universally adopted, under various names, in book- and newspaper-printing. These are the letters we have been taught to read from the time of our "First Reader" at school, nay, even from our first A B C lesson. As survival of the fittest, this alphabet has endured since the Mediaeval Age, and to-day, improved, idealized, it has victoriously conquered all other styles of letters. By virtue of its greater legibility the Modern Roman letter is gaining favor even with so conservative a people as the Germans. The German Text, a modified Gothic letter, has held sway through centuries, but German technical books and scientific magazines and newspapers are now printed entirely in Roman types.

This style of lettering can be fittingly employed on all occasions where space permits of its use without crowding, for advertisements, inscriptions, signs, in short, Modern Roman is never out of place.

Its use in wider fields should be encouraged and cannot fail to win new friends wherever employed.

Almost all the modern alphabets are embodied in the structure of the Modern Roman. The Antique, French, Plain, Block and nearly all other styles of letters are essentially Roman. The student who has learned to design good Modern Roman letters, has practically also mastered the construction of those other alphabets, barring a few details.

See "Mechanical construction of letters and numerals," page 31, and also "Practice work," page 19.

The French Roman (plates 9 and 10) may be classified as a happy combination of the Classic, Antique and Modern Roman alphabets. This style of letter, used in the Latin countries since the Middle Ages, has been much improved, until it presents to-day a refined type, with the classical lines of beauty enhanced. Its legibility is but second to that of the Modern Roman. This text is not frequently seen in our country, and its elegance of form still holds a strange note.

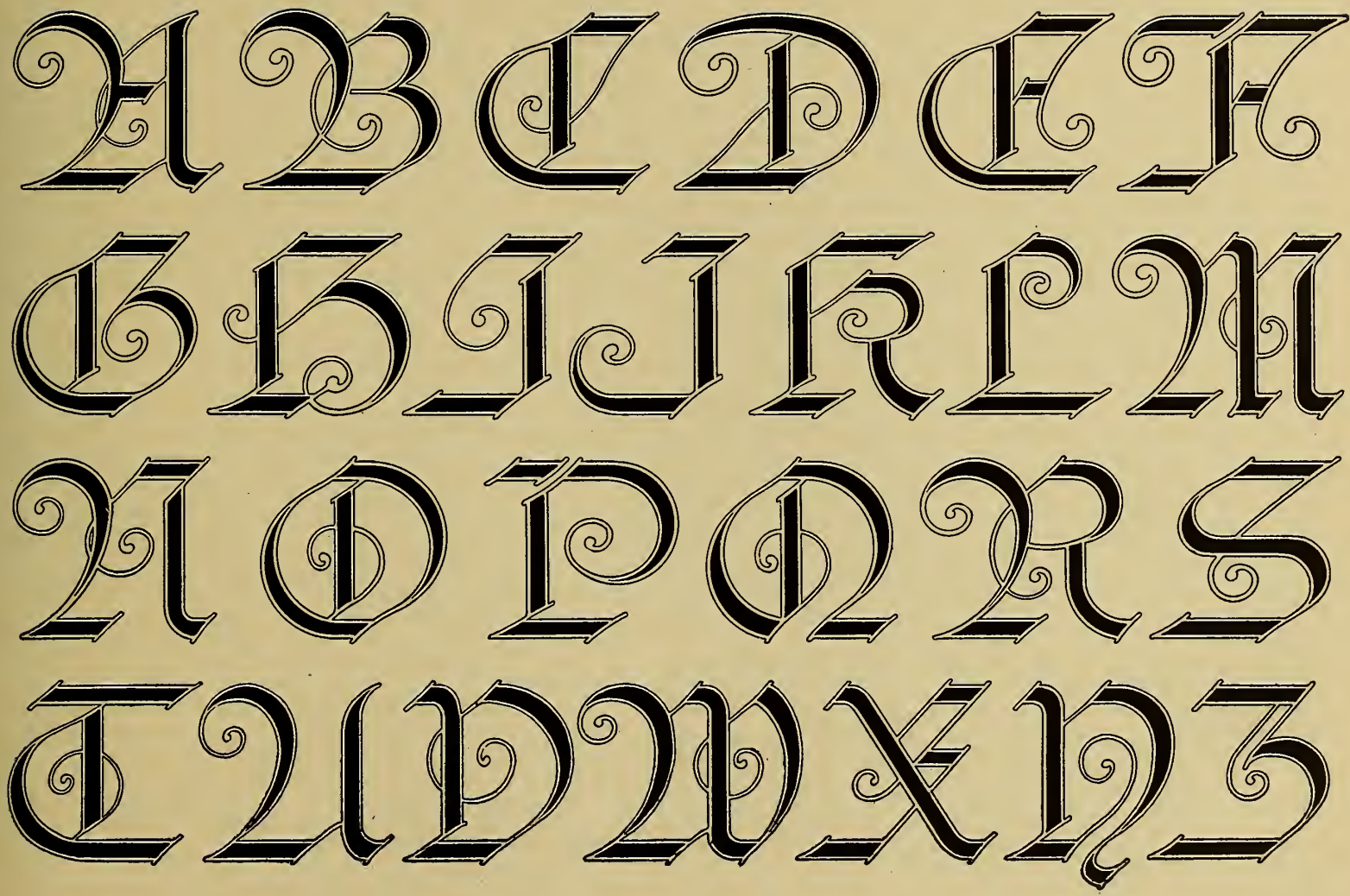
You will find in many books styles of alphabets termed "French Roman," that show but little resemblance to it. No letters of any alphabet, old or new, can compare with this beautiful type. Its ideal, graceful lines proclaim the French Roman the aristocrat of letters.

The use of this style of lettering for architectural inscriptions, memorials, street signs and other public purposes, in place of the Classic Roman, should be encouraged.

Crowding spoils the effect of the French Roman letter. Painstaking accuracy is necessary to bring

Plate XXII

German Gothic



out the sharp pointed serifs, the clean-cut lines and graceful curves of this letter.

Wherever employed, the French Roman letters will not look their best when other styles are introduced within their sacred precincts.

For rules of construction see under "General rules for the construction of letters," page 50.

Antique Roman, (plate 11), as the name implies, is an older type of letter than our Modern Roman, and, in a modified form, has come into vogue again of late years. It may be said that the Antique Roman letters were derived from the Classic Roman capitals, since the time of the invention of the art of printing. The old style of Roman, from which our Modern Roman has evolved, is a later product.

If the French Roman be better known to the Latin races, Antique Roman is certainly more familiar to us. This alphabet has been much employed during the past centuries, in book- and newspaper printing by the English-speaking nations. Its letters differ but slightly from the Modern Roman of our day, many traces of its classical origin still adhering.

The hair lines of the Antique Roman letters are finer than those of the Modern Roman, lending a note of refinement to this type. The serifs also are decidedly flatter and sometimes slanting, as are the brackets, and in these characteristics they resemble the French Roman. The body lines of A, K, M, N, R, V, W and Y are extended, and the cross lines of A and H may be broken. These peculiarities add a quaint charm to the letters of this alphabet, which does not impair their legibility.

Engravers and lithographers employ this style for inscriptions on tablets, in art- and commercial work. Some of the finest lettering in Antique Roman may be seen on our bank notes, stock certificates, insurance policies, &c. In the business districts of our great cities this handsome letter is used by sign writers of renown, and many are the admirable specimens of their art, lettered in gold, on public and private buildings, and proclaiming to the world the superiority of the American letterer. For perfection of style, beauty of form and excellence of spacing these business signs would be fitting objects of study.

The letters of the Antique Roman alphabet are also well adapted for newspaper- and magazine headings, book titles and -cover designs, as well as for letter heads and business cards, and wherever the Modern Roman is appropriate.

With the exception of a few details, the construction of the Antique Roman letters is based on the same principles as that of the Modern Roman, as described under "Mechanical construction of letters and numerals," page 31.

See also "Antique Roman," page 51.

Ornamental Roman, (plate 12) sometimes called "Tuscan Roman," also "Etruscan," is a Roman letter with curved serifs. It is a showy letter and can be used for effect. One line of lettering in this style among smaller letters in Plain or Italics will have a very expressive appearance. In advertisements it is appropriate for the confectionery, millinery and similar lines of business.

For engrossed documents the Ornamental Roman

letters are well adapted and can be used in conjunction with the Modern Roman or Plain letters.

On title pages, book covers and newspaper headings these dressy letters are employed to good advantage.

Sign writers occasionally use the "Ornamental Roman" letter, wagon letterers employ it whenever a "fancy" letter is wanted.

Engravers and lithographers also select this style to emphasize a certain line of an inscription.

For construction rules see "Ornamental Roman," page 54.

Roman Italics (plate 14) are the well-known slanting style of Roman letters used in printed books, newspapers, &c., to emphasize a word or in quotation of a sentence. It seems that these letters have been developed from an early Italian style of script. Lettering, composed of the expressive types of this alphabet, is extremely easy to read, as it is the nearest approach of printed or drawn letters to our written characters, which is evidenced by the similarity of the up- and down-strokes and the slanting position of the letters, but with the legibility enhanced by a more uniform appearance.

The Roman Italics are used on all occasions where a larger group of lettering is to be introduced into another mass, as in the reproduction of a part of a speech, a verse of poetry or any quotation. But the letters can also be employed for artistic display on title pages of books, for newspaper headings, etc. For such a purpose the letters are treated with more freedom, and the ends of hair lines of A, B, D, &c., and the tails of Q, R, &c., extended with a genial swing, and sometimes connected in graceful curves with other letters, producing unique and most pleasing effects.

For speed and economy of space the capitals in connection with the lower case Italics are employed by sign painters for all-round lettering and by engravers for inscriptions on metal. The architect also uses this style with the single pen stroke, as in writing, to mark his plans and specifications.

Contrary to the appearance of other styles of Roman letters, the lower case Italics (plate 25) look best when set closely and executed rapidly in a free, running hand, for, the graceful flowing curves and the even slant are made possible only by determined and skilful handling.

Rules for construction will be found under "General rules for the construction of letters," page 50.

The Plain or Condensed, Round and Square, (plates 15 and 16) also called "Egyptian," "Gothic," "Sans serif," etc., have been designed for convenience and economy. These letters can be condensed to fit into the narrowest spaces, are at once plain to read and quickly and easily made, and do not at all look commonplace when correctly constructed. There are no serifs, no ornaments; the letters stand unadorned, in their nudity exposing any possible defects of construction. Thus it may be said that these apparently easy letters are more difficult to make than the other ornamental styles. To get a correct idea of their proportions, the Plain letters must be carefully studied and a great deal of practice is necessary to bring out their proper shapes. For, al-

Plate XXIII

Modern Gothic (Old English), Type

(American Type Founders Co.)

Modern Gothic (Old English), Drawing

ABCDEFGHIJKLMNOPQ
RSTUVWXYZ$&abcdefghijklmnop
qrstuvwxyz!?.,'-:;1234567890thndrdst

though they can be produced easily enough, when speed is the only object, these letters can also be made to look very handsome, if constructed accurately and with care. The conscientious student, who devotes time and effort in developing the quiet beauty and unpretentious charm of the Plain letters, will find himself eventually highly rewarded. There is much elegance hidden in these simple letter forms, awaiting the earnest endeavor of him who will exercise patience and skill to bring it out.

One thing above all should be borne in mind. The correct rendering of the Modern Roman letters on one hand, and of the Plain letters on the other, once fully undestood and mastered, all other styles of letters of the entire Roman family have been conquered. The construction of all but the Gothic and Uncial letters is embodied in the rules for the "Mechanical construction of letters and numerals," (page 31) and the Plain letters are Roman in a condensed form.

The Plain letters are generally used by engravers and lithographers. For advertisements they are suitable wherever there is not room enough for the other Roman styles. Sign writers employ these letters constantly, and for lettering on wagons the round and square Plain letters are most generally adapted.

For architects' use the Plain letters are embodied in the Single Stroke alphabets, plate 20. (See also, page 112.)

For construction see "Plain" letters, page 55.

Plain, Spurred. (Plate 17.) The Spurred letters are adapted especially for carving on wood and stone. They will look equally well if employed for other purposes, being very handsome and legible, and not requiring as much space as the French-, Modern- or Antique Roman letters.

They are much used in sign painting and by lithographers and engravers. In architectural inscriptions also the Spurred letters are most appropriate and do not look out of place with either the Greek, Roman or the modern styles of architecture.

Work of great beauty can be accomplished by the use of this letter, which is a near relative of the French Roman. All that has been said of the Plain letters, except as to space, may be applied to the Spurred style, as it represents in fact nothing but the Plain letters with spur serifs.

For construction principles see "Spurred" letters, page 55.

Block, (plate 18) called also Full Block, represents the heaviest type of all modern Roman letters. They may be classified as Plain letters with block serifs, or rather as Roman letters without hair lines.

The Block letters are employed mainly by sign painters, for large work, and this style of lettering can be read at the greatest distance.

For business cards, letter heads, and in business announcements the Block letters are also appropriate, if but one line of this style be selected with other types of letters. For instance, in the first line, firm name, in Script; second line, business or trade, in Block; third line, address, in smaller Plain or Italics.

The square type of Block letters is principally used in wagon lettering.

For construction see "Block" letters, page 54.

Ornamental Block, (plate 19) also called "Tuscan Block," are Block letters with curved serifs, as in Ornamental Roman. They are employed like the Block letters, and a line of Ornamental Block helps to break the monotony of an inscription of plainer letters. These heavy Ornamental types are very showy, and their construction does not require the skill necessary for a Plain letter, because the ornamental serifs tend to hide slight defects in the structure of the letter.

The Architects' Single Stroke type of Ornamental Block, (plate 20) is a dressy letter, to be used for display of any single line of an inscription on plans &c., easily made and plain to read.

Principles of construction are given under "Block" letters, page 54.

The Lower Case Letters. (Plates 25 to 29). Our small or lower case letters were derived from the Minuscule- (as distinguished from Majuscule- or capital-) letters, originated in the VII century. Words in lower case letters are more easily read than those set in capitals only. This is due to our familiarity with this style of letter, it being employed universally in printed books, journals and newspapers. A large mass of reading matter should always be designed in lower case letters, to make it appeal to the public.

The lines of the small letters, like those of the capitals, should not be judged by the cramped and stiff appearance of printed types. In the hand of an artist the lower case letter assumes a most beautiful shape and form, when constructed with freedom of treatment and harmony of spacing.

Roman capitals only should be used with the lower case Roman letters, Block capitals with lower case Block, and so on. It is not permissible to combine two different styles of letters within the same word.

There is but one exception to this rule: the lower case Gothic letters may be used with both the Uncial and the Gothic capitals. In the lower case German Gothic (plate 29) the author has designed a new type for combination with both, the German Gothic capitals and the Modern Uncial Initials. A practical application of combining these two styles of letters is shown in the example of a resolution, plate 35.

No lower case letters are devised for the Classic Roman; these letters are therefore used as capitals only.

For construction of lower case letters see page 74.

THE GOTHIC ALPHABETS

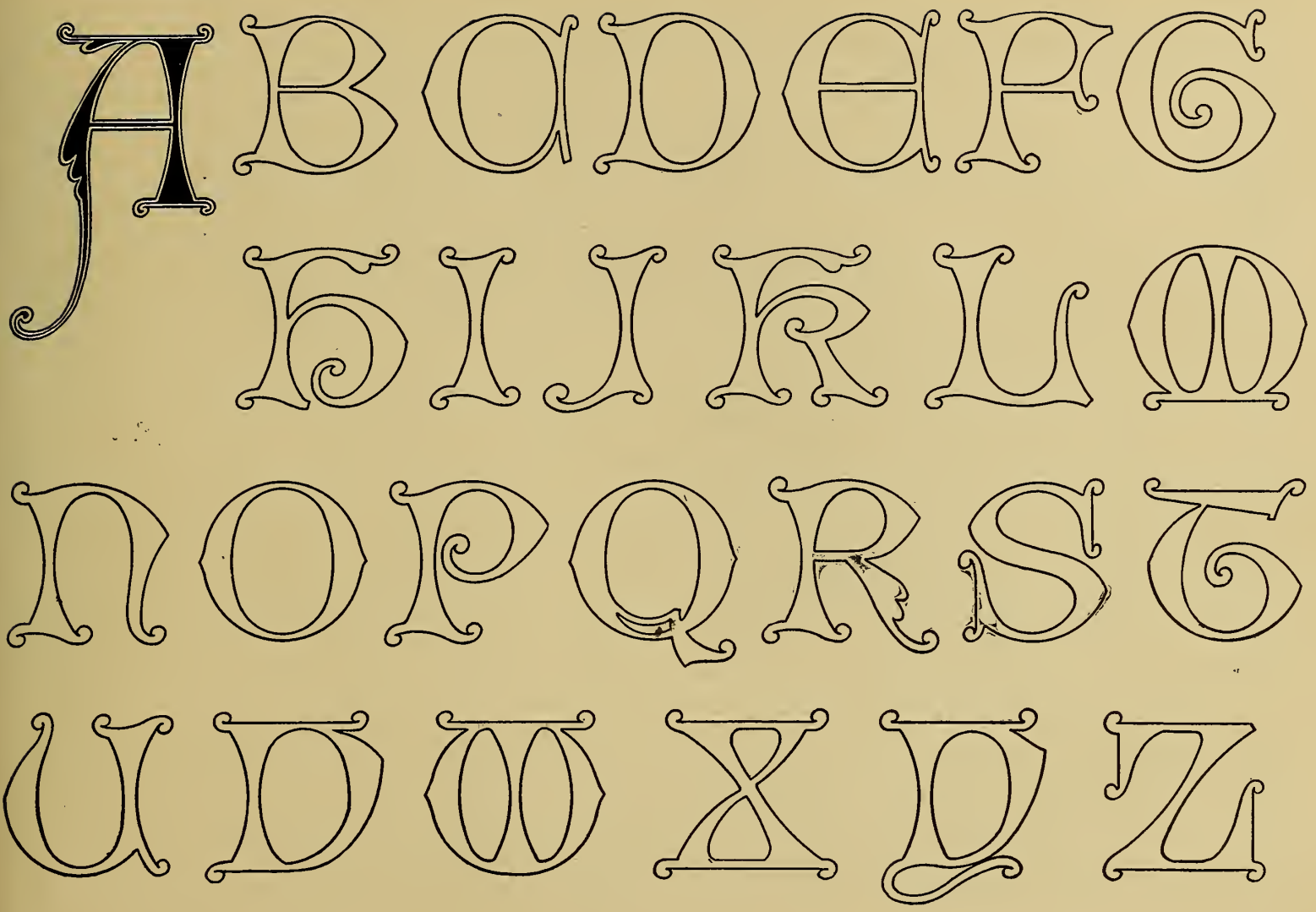
Modern Gothic, also called Old English. (Plate 23). Gothic is a term applied to Mediaeval art in Europe, especially to the different Pointed types of architecture, prevalent from the XII to the XVI century; a style developed from the Romanesque, and having probably no relation to the Goths.

The Old Gothic letters were derived from the Greek Uncials of the III century, but several of the letter forms originated in the Gothic Runes. The Gothic Runic system of letters was lost with the Gothic language.

The Old Gothic characters have descended to us

Plate XXIV

Modern Uncials (Church Text)


A B C D E F G
H I J K L M
N O P Q R S T
U V W X Y Z

from ancient manuscripts, and, as perfected and modernized, have been developed out of the Gothic or Old English, also called Blackletter, and used by the English printers of the XVI century.

The letters represent a family by themselves, but since the revival of the Roman letters, the Gothic letter forms have been greatly changed, and the influence of the Roman lines upon them is clearly seen.

Gothic letters now are not generally used in Latin countries. They have flourished, however, for the last centuries in Germany, where the Gothic and the German Text, a modified form of the Gothic, are almost exclusively used. But the Roman letter is, of late, making inroads into eastern lands, and the Gothic is being revived in the west. As the tide of Gothic conquest in the III and IV centuries flowed from east to west, so the stately and elegant Gothic letter forms have recently found their way westward, into the United States, and are now used for special announcements, on stationery, etc., while the Roman letters, in turn, are slowly winning favor in literary circles of Germany, and are there employed in the printing of scientific and art journals.

The use of the Modern Gothic letters for announcements of social functions, inscriptions on panels in churches and halls has become very popular. Its promiscuous employment in newspaper advertisements, however, is a mistake, as the majority of readers are not sufficiently familiar with this type at present. The prevailing custom of using the Modern Gothic letters for names on private- and business cards is also to be censured. Names and addresses should always be set in the plainest, most legible letters and figures.

The great field for the undisputed reign of the Modern Gothic letter lies in the artistic engrossing of testimonials and other commemorative documents. The unlimited possibilities for decorative effect, offered by these embellished letter forms, as well as their adaptability to lend themselves to elaborate ornamentation and illumination, make them especially suitable for this purpose.

The Modern Gothic capitals are used for initials only. A name or word, composed of Gothic capitals, would be difficult to read, even for a letterer.

As with the Roman letters, a corruption of taste has brought forth extremes of ugliness in extravagant curlicues and grotesque shapes, and examples of this kind have found their way into books of instruction in lettering. The other extreme is also represented by clumsy, ungraceful imitations of these beautiful letters.

In selecting a book of instruction or of alphabets, for the purpose of study, the aid of a competent teacher or judge should be sought.

For construction of Modern Gothic letters see page 62.

For lower case Gothic letters see page 81.

German Gothic. Of the many different modern styles of German Gothic letters, the initials shown on plate 22 represent one of the prettiest designs. It is a highly ornamental letter, and in this respect ranks with the Modern Uncials.

The manner of execution, in fine outline, and

body lines filled in solid, enhances its decorative appearance. This method may be employed with any of the other style letters, when occasion demands it. The Modern Gothic (plate 23) is especially adapted to this treatment.

Sign painters and decorators should not use the German Gothic letters, except for such special work as church windows and inscriptions in public buildings, etc. This style is also suitable for title pages, book cover designs, &c.

For use on engrossed documents the German Gothic initials may be set within a square of arabesque- or scrollwork.

See "German Gothic" Initials, page 66.

German Gothic Lower Case letters will be found on plate 29.

The Modern Uncials, or Church Text. (Plate 24). In the midst of an era of general upheaval, at a time, when the images of the old gods of mythology tumbled before the victorious onslaught of Christianity, when armies rallied under the banner of the new religion, and devastated fair landscapes, when wild hordes of barbarous tribes scoured the countries of Europe, and armored knights swooped down upon the walled towns, when little was held sacred and few were safe—in these days of ruin and unrest there sat in the quiet sanctuary of their cells, in the safe and secluded nooks of quaint cloisters, hidden in the valleys or inaccessible mountain fastnesses, far from the roar and carnage of battle and plundering, the goodly friars, protected by mighty lords and kings, their allies, and secure from attack, in the knowledge of the power of the Gospel of Christ, which they endeavored to spread and translate into the heathen tongues.

Here, in peace and solitude, the learned monks cultivated the sciences and arts, the knowledge of which they had brought from Italy, the center of civilization. In these monasteries, the abodes of learning, were executed beautiful specimens of the art of chirography, copied from the Holy Scriptures, in psalm books, litanys and missals.

Before Gutenberg invented the art of printing, books were written by hand. Some of these old manuscripts in marvelously handsome and finished script, emblazoned with gilded and beautifully colored lettering, now crumbled and age-stained, are shown in our museums and collections, still bearing witness to the skill of their patient writers.

The first letter on a page or at the beginning of a sentence or chapter—the initial—was generally drawn large, and elaborately embellished, or ornamented with scrollwork and painted and illuminated in colors. The original capitals, found in the early missals, were later copied in type and used for printing, in a manner similar to the written books.

Like the Modern Gothic characters the Modern Uncials are the product of gradual development. There are countless styles of these Mediæval letters, and most of them show such strange features, as to greatly impair their usefulness for modern purposes. The letters presented on plate 24 are examples, modified and designed for greater legibility.

The Uncials are seldom used for any but decorative purposes, and in this respect they stand high

Plate XXV

Lower Case Letters 1

Modern Roman

Roman Italics

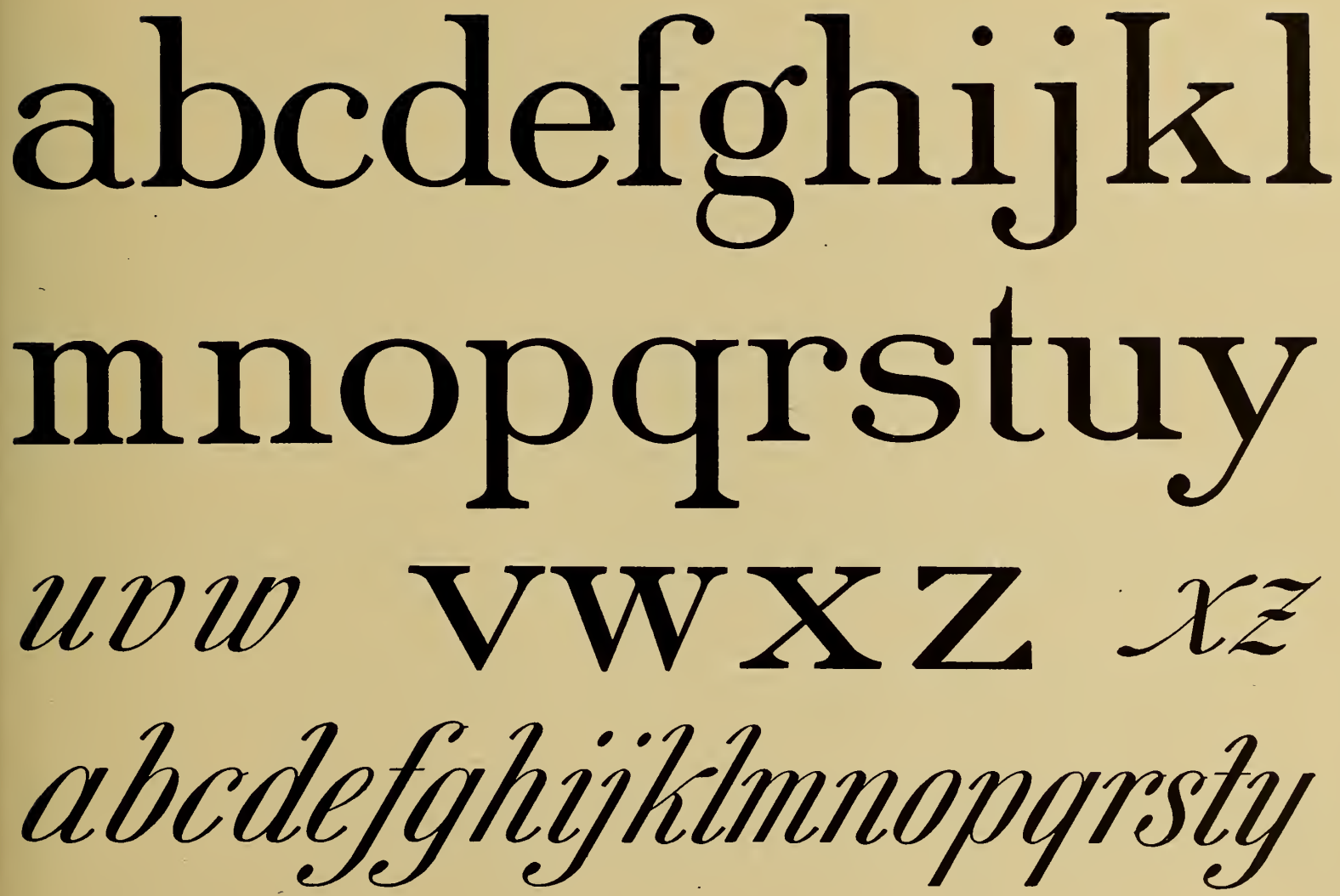

abcdefghijkl
mnopqrstuy
uvw VWXZ xz
abcdefghijklmnopqrsty

Plate XXVI

Lower Case Letters 2

French Roman

Antique Roman

abcdefghijklmno

pqrstuvwxyz

1234567890

abcdefghijklmno

pqrstuvwxyz

1234567890

Plate XXVII

Lower Case Letters 3

Spurred

Plain, Square

Plain, Round

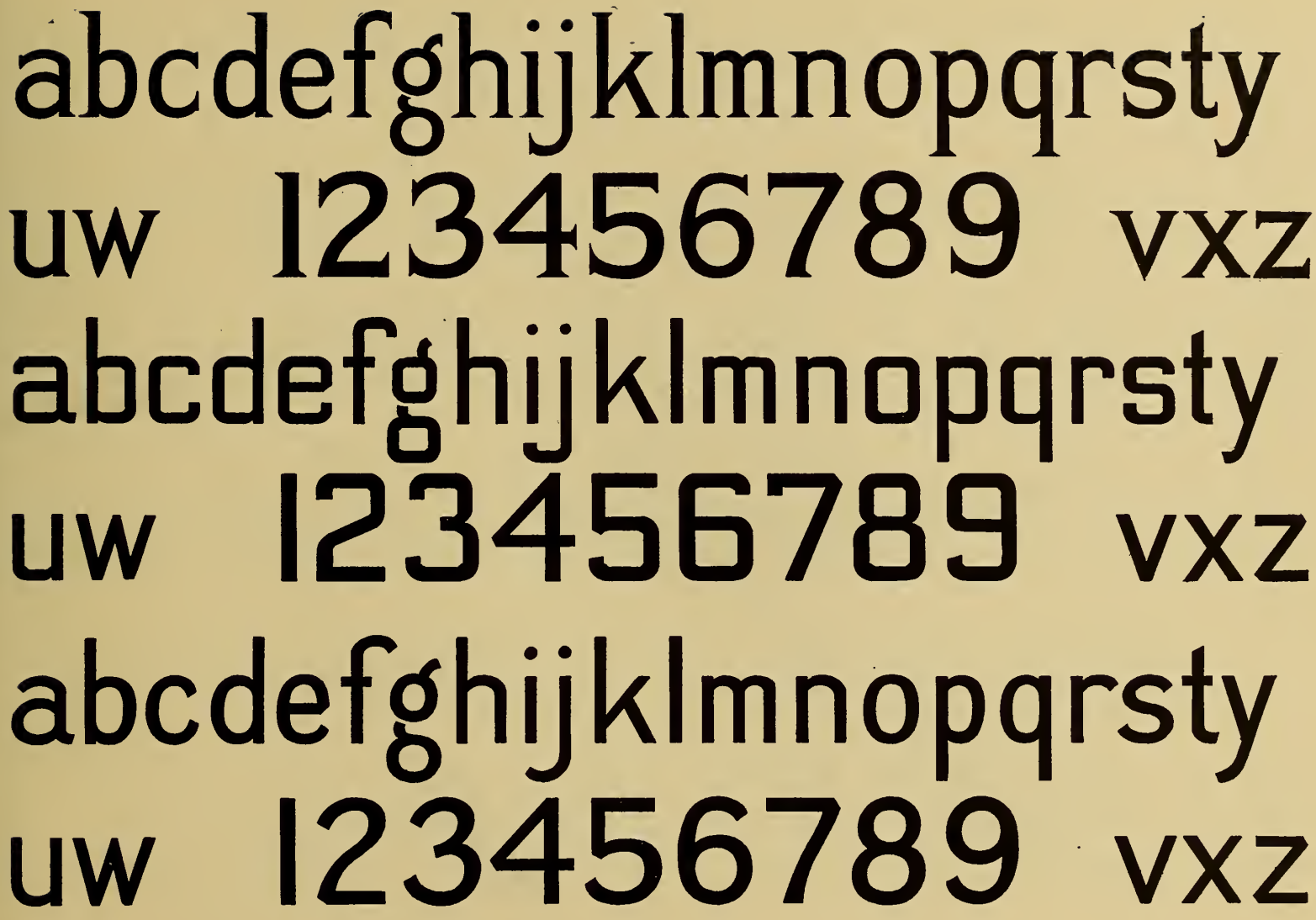

abcdefghijklmnopqrsty
uw 123456789 vxz
abcdefghijklmnopqrsty
uw 123456789 vxz
abcdefghijklmnopqrsty
uw 123456789 vxz

Plate XXVIII

Lower Case Letters 4

Block

Ornamental Block

abcdefghijklmno
pqrstuvwxyz
1234567890
abcdefghijklmno
pqrstuvwxyz
1234567890

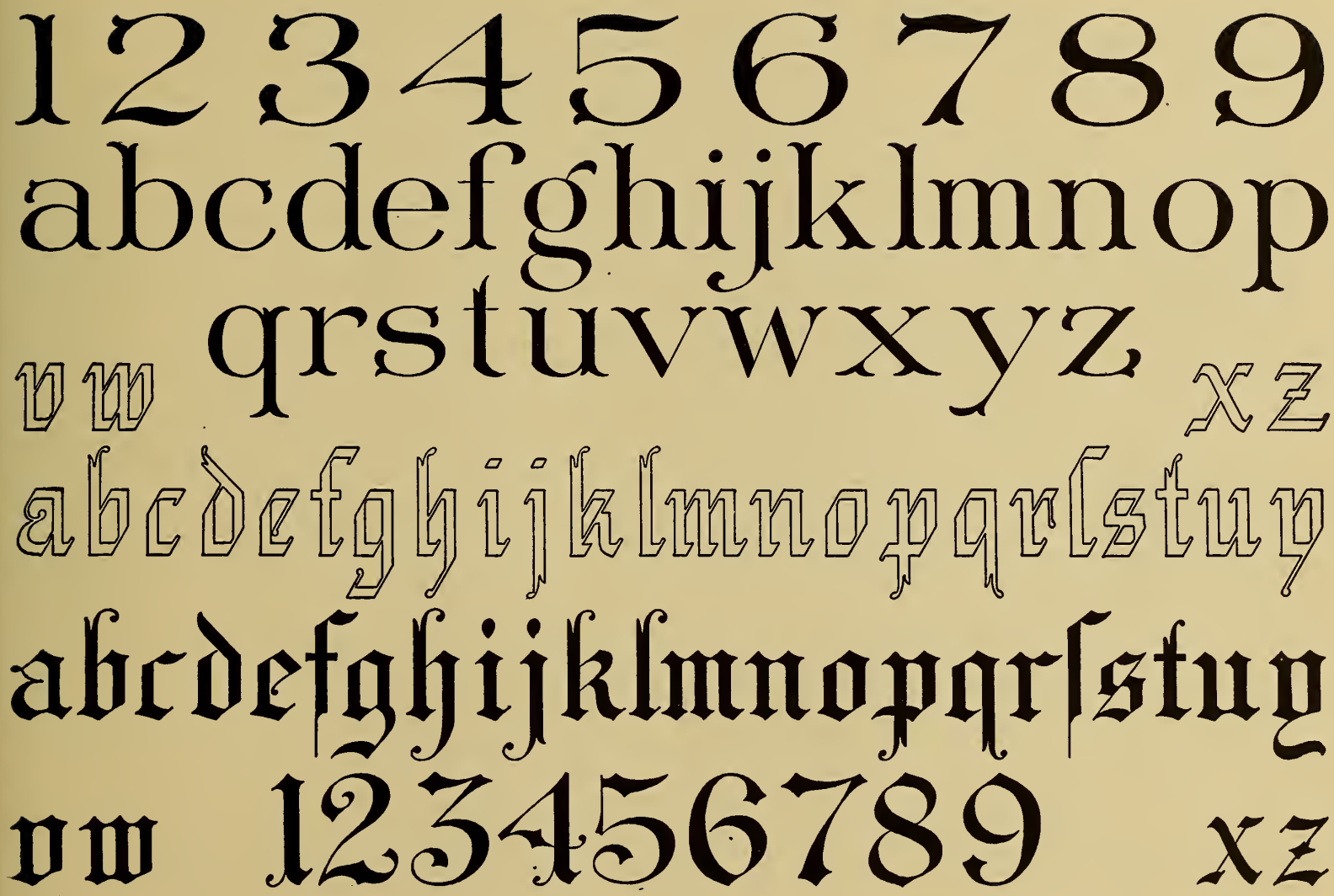
Plate XXIX

Lower Case Letters 5

Ornamental Roman

German Gothic

Modern Gothic (Old English)


1 2 3 4 5 6 7 8 9
abcdefghijklmnop
qrstuvwxyz
vw
xz
abcdefghijklmnopqrſstuy
abcdefghijklmnopqrſstuy
vw
123456789
xz

above any of our other letter forms. They admit of a scope of embellishment even larger than that of the Gothic initials.

As with the latter, names or words should not be composed entirely of these capitals. A special type of lower case letters, designed for use in conjunction with either the Modern Uncials or the German Gothic capitals, will be found on plate 29.

On engrossed documents, as memorials, resolutions, etc., the Modern Uncials may be employed with most gratifying results. See plate 35.

For church work, stained glass windows, inscriptions for private and public places, where an ornamental letter is desired, no style of lettering, better qualified for this purpose, can be found.

For construction principles see "Modern Uncials," page 67.

The Numerals. The seven letters, I, V, X, L, C, D and M constitute the Roman numerals. The numerals used at present by all civilized peoples are of Hindoo origin, and were developed by the Arabians in the IX century.

The employment of Roman numerals for architectural inscriptions and on book titles has of late been revived. Watch and clock dials, in turn, are now frequently marked with the Arabian characters, and they are generally used for all purposes throughout the world.

For reasons of harmony, the employment of the proper style of numerals, as designed in combination with a certain alphabet, is obligatory. So the Arabic numerals, executed in Modern Roman style (plate 7) should be used in conjunction with the Modern Roman letters, and those in the Gothic style (plate 29) be selected when Gothic letters are used.

The other examples of numerals are found on plates 20, 26, 27, 28 and 29.

The construction of the different types of numerals requires no special description. They are made in a manner similar to the letters of their category. The rules laid down for the construction of numerals under "Mechanical construction of letters and numerals," page 31, pertain also to the construction of the other styles.

The Architects' Single Stroke Alphabets. (Plate 20). It is absolutely necessary for the student of these alphabets to go through the course of "Mechanical construction of letters and numerals," (page 31) and also to study the article on "Arrangement and spacing of letters," (page 116) before attempting to copy any of these letters. Having acquired a certain amount of skill in drawing *all* the previous styles of letters, described in this chapter, renders the reproduction of the Single Stroke letters a comparatively easy matter.

The principles laid down for the construction of the Modern Roman letters and numerals govern equally all styles of the Architects' Single Stroke alphabets, and the correct spacing and arrangement of letters are of even greater importance than their more or less perfect shaping.

For the lettering of titles and details on plans and specifications, where a very plain letter is wanted, that can be executed with speed, and is easily made, the Architects' Single Stroke alphabets have been

designed. The first two alphabets represent simplified forms of the Plain or Condensed letters, (plate 15) the third a modification of the Ornamental Block, (plate 19). The construction of these types of letters requires even less time than that of the Roman Italics, as described for execution by the pen stroke on page 55. Like these the Single Stroke letters can be made slanting, but they admit of a greater variety of representation. If set vertically and executed by aid of the drawing instruments they will have an accurate and finished appearance. (Alphabet 1.) Otherwise these letters are simply dashed off freehand, with a writing pen.

In practising the slanted style of letter, (alphabet 2), the beginner must give attention to bringing the up- and down strokes exactly to the line. This point, and the uniform slant of all the letters are of the greatest importance.

Capitals and lower case letters of the Single Stroke styles, vertical and slanting, used in conjunction with the ornamental alphabet 3, offer a wide field of variations of letter forms, to be employed on titles of plans, &c. With the ornamental serifs added, the Architects' Single Stroke alphabet 3, represents a decidedly decorative letter, requiring but a minimum of labor.

In designing these letter forms, the extremes of superfluous scrolls, ends and dashes have been carefully avoided, legibility being the main object.

When constructing the Single Stroke letters, draw top- and bottom guide lines first, and, if lower case letters be used, draw middle- and sub-guide lines also. Sketch in the letters lightly, spacing them well, before beginning with ink. Use a writing pen. Take little ink at a time. Run in your letters after the method of constructing the Roman Italics, for which see page 55. Produce clean and even lines. Remove pencil marks, when finished.

Another alphabet for architects' use is the Roman Italic, (plate 14) and its construction is described under this heading on page 55. The rules for the lower case Italics, (plate 25) are found on page 75.

Plate XXX

Example of Composition

THE
DISTINCTIVE INDIVIDUALITY
OF TONE AND CHARACTER
OF THE BEAUTIFUL

FURNITURE

SHOWN AT OUR WAREROOMS
SIMPLY BREATHES A
CHARM OF REFINEMENT

PART IV—THE PROPER AND ARTISTIC EMPLOYMENT OF LETTERING

Arrangement of Letters—Composition—Spacing—Balance—Harmony

The arrangement of the letters in the composition of an advertisement or inscription is the most important point in successfully solving the problem of good lettering. Spacing and arrangement are so far synonymous, that each expresses a meaning which cannot be separated from the other without grievously crippling it. The theme of spacing in lettering is an old one, and the systems invented and practised, from ancient times to our own, are manifold and numerous, as are also the errors and deviations from a sane and logical course. Inconsistencies in spacing are perhaps not encountered more frequently in the lettering of today than in the architectural inscriptions of a classical past. Nor is it at all beyond dispute, which is the better solution of the problem; the spacing of the old Romans, with all its discrepancies, such as the close setting of IND and VA, and the illogical distancing of characters in the word CATVLVS, or the questionable methods of some masters of modern art, who strive to balance spaces by freely changing the size of certain letters, inventing constantly new and varying forms and shapes, to fit into and fill out spaces, as they are met, entirely losing sight of the main requirement in lettering, legibility. (Plate 32.)

There can be but one way of settling the question of spacing, after all the examples of ancient and modern schools have been studied, and that is, to space our lettering with a view to obtaining an effect most pleasing to the eye. This principle of sane use is not new by any means. It has been embodied in the designing of our modern printers' display types, as far as practicable, with the best possible results. We must get away from the crude methods of a gray past. But we should not allow ourselves to be carried away by the hyper-modern idea.

When arranging a mass of letters, after sketching in the words of the text, you must study out the problem of spacing from the way the letters happen to be placed or grouped. Such difficult combinations as TT, or LA, or AJ may form the basis of the proportion of spacing for the rest of the lettering. Balance as nearly as possible the white spaces between the letters. That is to say the space between the letters in each word should be made to appear alike. This does not mean the space between extreme ends of letters, but the space as a whole.

It is no easy task to produce good spacing, but the reward is great and the effect highly pleasing, when

a line of perfectly spaced lettering appears before your eyes. And when it appears in print this well spaced lettering is easily distinguished from other reading matter. The reason is not known to most observers, but any one can tell that the lettering is much plainer and easier to read, regardless of its reduction in size.

The word "LETTERING" is perhaps as good an example of spacing as any. See plate 32. The one difficulty here to be overcome is the large space between the stem strokes of the two Ts. If these letters be placed close to each other at the top, then the volume of space near the lower line will suggest the comparative space to be maintained between the other letters. The proportion of space between each pair of letters should be very carefully studied. The more or less perfect harmony of letters and spaces depends on the successful solution of this problem of correctly spacing the letters. The word LAW on plate 32 serves as an illustration of poor spacing. The space between A and W should be left sufficiently wide to balance that between L and A.

The method of spacing shown in the letters LAT, on the same plate, filling in the space with a dash, is also to be condemned.

Note the wide space between the letters A and T in the word "Hats," illustrated on plate 32, and between LL and LI in "Spelling," or between P and A in the word "Company," as compared with the crowded appearance of the other letters. These examples of bad spacing are the result of the printers' block type and discrepancies of this sort cannot be avoided in printing, because the spaces between types are figured from the *extremes* of the letters.

The superiority of the letterer's art is thus shown. He is not restricted by stock rules, and can draw his letters and arrange them to suit the circumstances. The printer, less fortunate, has no alternative, but must employ his type as it comes.

The space between two words should be about as wide as one square. Spaces between sentences should be greater; but these spaces between words are optional and may be increased or diminished to suit the contingencies of each case. See "Example of Composition," plate 30. Also Modern "Ad," plate 33.

Grouping of words and sentences. The tasteful grouping of a body of words, which may also be called the setting, is a quality entirely absent, or at least often wanting with many an artist of repute. Is it to be wondered at, then, that so many of the less successful ones follow the bad example? Look at our modern publications, book cover designs, newspaper headings. Many of them are spoiled in the laying out of their lettering, in the wilful breaking up of a word into syllables, or the tearing apart of a sentence. It is mutilation to carry the remnant of a word or sentence over to the next line. See example on plate 31.

Not all sign writers are artists in their line, but some of them could give points to artists and architects of the present day, on the arrangement and grouping of letters.

The reading matter for an advertisement or in-

Plate XXXI

Mutilation

Modern Freak Letters

Classic Roman, Modernized

A STUDY IN CONTEMPORARY ART

UUU BUFFALO

OBSD

scription looks best when grouped towards an imaginary center line, so that the body of the text appears isolated from the border, or the lines, separating the column from other reading matter of the publication. The lettering of titles or inscriptions, for architects' plans and all other purposes, is arranged on the same principles, always grouping the most important words toward the center.

Arrange a sentence within a line, or two, or more lines. To be expressive, it must stand out independent from the rest of the reading matter, and the next sentence must begin a new line. Any word or a group of words may be accentuated by placing it in a line by itself, or in the center of a line.

A word must not be broken into syllables. The prevailing usage of displaying the principal words of a group of lettering by larger spacing or distancing of letters, should not be copied by the designer of high-class lettering. Letters and spaces should always be in proportion to each other, and if any word or a group of words is to be emphasized, let it appear in larger letters than the rest. See example of good grouping, Frontispiece. Also plate 30.

The "Ad." High-class advertisements, book plates, title pages of books, magazines and sheet music, newspaper headings, &c., are generally printed from plates, instead of type. The design, drawn in ink on paper or cardboard, is reproduced on a metal plate, by the photo-engraving process. The plate, mounted on a wooden block, is used for printing. If a large number of copies be desired, or should be wanted for different publications, duplicates are made of the plate, by electrotyping. The drawings are executed on a somewhat larger scale than appears in print. For very small advertisements, such as single column newspaper or magazine—about two inches wide—the drawings should be made eight inches wide, or more. The measurement is figured from the extreme outer edge of the lettering or border. For larger ads like half or full page magazine, or newspaper headings, etc., the drawings may be made only one-half or one-third larger than the actual space for which they are intended. Lettering can be designed with more comfort and ease when worked out on a large scale. A correct drawing of lettering will always look well, no matter how great the reduction in size.

When laying out the reading matter for an advertisement, one should aim to produce, not a striking effect, but a decent, pleasing appearance. The effectiveness of a good advertisement lies in its simplicity. Any embellishment is of secondary importance, not only for reasons of beauty, but because otherwise the eye is drawn from the principal, the text.

The impression of the advertisement as a whole must conform to the sense expressed. It should serve as an illustration of the wording of the legend told. Roman letters should be selected for the purpose of advertising municipal, banking and insurance business notices, as well as matters relating to the arts and sciences. An announcement of spring millinery may be set in ornamental type and in graceful curves and broken lines, while the more severe forms of Gothic letters and Uncial capitals should be em-

ployed to herald such dignified affairs as church functions and the like.

The advertisement, by its characteristic outward appearance, should convey, even before the words contained therein be read, a message akin to the sentence quoted.

In making a drawing for an advertisement, the paper is first squared off, the center line put in, and three lines drawn around the working space. The first or outer line represents the cutting line. The second or middle line serves as a guide for the border. The third or inner line is drawn to keep the reading matter within its boundaries. The lettering is sketched in first, the border last. By the aid of the *Center line* the words and letters of the advertisement are broken up or divided into equal, or nearly equal parts, and lightly sketched in. The number of lines needed for the reading matter is calculated on another sheet of paper. Never break a word into syllables,—this practice is absolutely inexcusable.

Crowding. It looks well to leave an ample margin at the top and bottom, between the text and outer line, or border. An even space is left on each end of a line of lettering, and the reading matter kept well balanced toward the center. Plenty of space between the body of the lettering and the border or frame always looks better and also makes the advertisement appear more conspicuous than larger and crowded lettering. It is a bad mistake generally committed by advertisers, to direct the artist to make the letters of a given size for a given space. Instead, they ought to leave the size of letters to the better judgment of the letterer, after pointing out what is to appear most prominently. To insure mutual satisfaction, let the draughtsman submit a rough pencil sketch, which may be changed or corrected.

In spite of the many good examples to be observed daily, some advertisers never learn to use short, pithy sentences. They will crowd into a three of four inch single column advertisement, matter composed of four- or five hundred letters. When photographed down to the print block the lettering will, of course, appear very small, and, printed on the coarse stock of some newspapers, must come out partly indiscernible. One cannot reasonably expect readers of the advertising columns to peruse all the small text of such an announcement. The sense of the subject matter should be presented in as few words as possible and in letters of sufficient size, so that it can be read at a glance.

After the sketchwork has been finally approved and all the lettering and by work carefully penciled in, the whole may be traced and transferred to a fresh sheet for inking in.

The reproduction of a good drawing is sometimes spoiled in the process of photo-engraving, by incompetent or careless workmen. The artist can have a proof of the plate submitted to him for examination, and he should be asked to judge as to the merits of the work. See plate 33.

The Border or Frame. Conventional adaptation of flower and foliage motives, as well as the lines of the different styles of architecture can be fittingly employed in borders for advertisements or inscriptions, where an ornamental expression is desired.

Plate XXXII

Spacing

LAW LETTER LAT

LETTERING

HATS, SPELLING COMPANY, COMPANY

Endless are the possibilities for the combinations of graceful lines for attractive borders. The emblems of the trades and sciences, the attributes of the arts, intertwined with scrollwork or combined with designs of columns and friezes present ideal opportunities to demonstrate artistic ability. The addition to the advertisement of a suitable border has a wide and important bearing upon its appearance. Apart from the beauty of the effect as a harmonious whole, the border invariably adds a charm, a distinctiveness, which, when the notice appears among a number of others in the columns of a newspaper, at once attracts the eye.

A border designed for an advertisement should in some manner be related to the matter advertised. For a tobacco "ad" the border may be composed of leaves and flowers of the tobacco plant, or graceful waving and curling lines of tobacco smoke. For real estate, the building-, furniture- and allied trades and similar lines of advertising the whole scale of architectural lines and forms is available. But do not be led astray by the folly of some artist who embellished a candy advertisement with a border composed of fowls and feathers. Do not construct borders composed of a number of meaningless "curlicues" or "gingerbread work." Study your design well, and work it out with the consciousness of art. Flowers and foliage are never out of place, and may be employed for borders in all cases, as also a frame composed of straight or gracefully curved lines.

When designing a border the first consideration must be to give the text or reading matter due prominence. A border of elaborate design should be drawn in light lines only.

For other matter concerning Borders see under "Irregular Curves," page 18, and the following paragraph.

For examples of borders see plates 30 and 33.

Adapting ideas. It has been stated in a previous chapter that genius is not essential to become a good artist in lettering. Novel ideas are not alone produced in the imagination of an artistic temperament.

It is the man with an eye for practical things who gets up the schemes for advertisements that command the admiration of connoisseurs, for a time at least. But he does not present any new ideas, nor does he imagine anything; he is too much of a practical, matter-of-fact man for that. He simply adapts a well-known idea for his purpose.

To put simple, every day themes to practical use for advertisements is not at all as difficult as it seems. All you have to do is to look around you with your eyes open. You can get inspiration close at hand. No need to go far or travel abroad.

For the purpose of illustration we will assume that you desire to design a border for a notice, and as it is to be used as an advertisement for a new fishing rod, the border should suggest something aquatic.

Very well. In your bathroom the decorations on the tiles show a design of pond lilies. That will do—or, rather, you will make it do. Just take a piece of tracing paper and copy the outlines of one bunch of the flowers, a few buds and some of the waving stems and floating leaves. You can use this composition without much changing, in fact, you

select which of the flowers, buds, leaves and stems you can best utilize for your scheme, and leave out what is not wanted. (See example on plate 34.) The center lily is too large—lay it aside, as also a bud and leaf below and substitute a smaller one. The stems are rearranged and a bud placed to fill the corner, and there you are, one-half of the lower border is complete; the other half is added by reversing the pattern. For the sides you only have to extend the trailing stems, or shorten them, according to the shape of the advertising space. The flowers and leaves must be placed in a horizontal position. Outside of these minor changes it is simply a matter of tracing. For the top take the same detail of design used for the bottom, with the exception of a leaf here and a bud there, to make it appear lighter and to balance better the effect of the frame as a whole.

In a similar manner the designs of wall papers, borders, patterns of rugs and carpets, embroidery, &c., may be utilized.

For other examples of borders see plates 30 and 33.

Letter Heads, Business Cards. Designs for these branches of the art of lettering are also drawn on paper and reproduced upon metal. The lettering for business cards and letter heads is generally laid out with a view to utilizing the same design and plate for both. Attention must therefore be paid to arranging the lettering suitably for the space at the head of the letter sheet. This is accomplished by distributing the reading matter in as few straight or slightly curved lines as possible, rather narrow as to height, and long drawn out horizontally.

Occasionally an emblem of trade, decorations of flowers, a vase or portrait is placed to the left of the design, appropriate for milliners, florists, decorators, etc. Borders should not be used.

All styles of Roman letters are suitable for this purpose. The first line, the name of the firm, might be set in Script; the next line, relating to the business, in Modern Roman or Block, and the last line, giving the address, in Italics or smaller Roman or Plain letters. A pleasing effect results when one style of letter only, graded to different sizes, according to their importance, is used.

The lettering on a business card or letter head should be sharp and well defined. The narrow strip of lettering appears to advantage on the former when placed near the lower edge, leaving the upper half blank.

The possibilities of varying designs and combinations of lettering for *Book Covers* are unlimited. Here the fertile imagination of the progressive artist has free play.

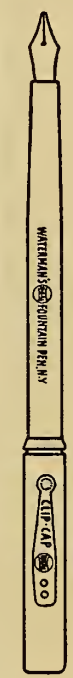
Scroll designs of intertwined Italics, artistic, but very simple in appearance, and most difficult of composition, or any of the ornamental styles of letters may be used, without a border. Original schemes of lettering and borders of odd appearance, bold letters upon a background of curiously twisted, ornamental line work, curved lines of lettering, mingling with branches or flowers, or just a line of gracefully flourished French Roman letters, freely treated, will all look well on a book cover.

Plate XXXIII

Design for Modern "Ad"

The Standard of the World

Waterman's Ideal Fountain Pen



L. E. Waterman Co. 173 Broadway, N.Y.

Sometimes a title name, in any of the Roman style letters, capitals and lower case, enclosed in an oval or plain oblong line border, is called for, and makes an elegant design.

The Uncial, Gothic and Script letters should be used for titles of books on history, architecture, art, &c.

The construction of a design of lettering for a *Title Page* requires the employment of novel and unique ideas, and skilful work of the highest quality. Lettering on title pages is often framed in a suitable border, or flanked by architectural columns. Letters of any conventional style may be selected and treated in a free and unrestricted manner, but their lines should always proclaim the artist.

Figure work and elaborate ornamentation of great beauty often accompanies the lettering of title pages, yet, in many instances, the poor quality of the letter forms and their faulty spacing furnish an odd contrast to the excellent by-work.

For title pages, as for all purposes, the lettering should always be considered of first importance. The careful grouping and arrangement of letters, and their accurate execution is most essential.

Large and conspicuous letters of artistic design and finish are desirable for the titles of newspapers and periodicals. The lettering may be elaborately drawn in open line work, or shaded, but the letters should be carefully spaced, and be of a plain style.

There is a tendency to crowd in too much ornamentation, or add heavy borders to the narrow space allotted to the *Headings* of *newspapers*. If a border be used, let it appear in light line work and do not let it be too clumsy. Bulkiness should also be guarded against in designing the lettering. When more than one line of it is required, arrange the most important matter in one line, composed of heavier letters, and set the remainder in smaller, lighter characters.

Artistic work in newspaper titles is sometimes seen. The lettering appears on a design of an architectural frieze, flanked by potted plants, or having urns at the ends. A narrow garland of flowers, in light outline, separating the headline from the other printed matter, produces a charming effect.

Designing Memorials, Resolutions, &c. The work of designing lettering for memorials, resolutions, testimonials, diplomas and other commemorative documents, also called engrossing, is in many instances the manifestation of great art. What has been said under the heading "The ad" also applies, and with even greater force, to the laying out of lettering for this purpose. Avoid loud, striking effects. Aim for beauty and elegance.

Unlike the advertisement, which is used and read by thousands, but, once read, is scarcely ever looked at again by the same individual, a document like a memorial is framed and hung upon the wall, and is reverenced, the pride of generations. And as "a thing of beauty is a joy forever," you should strive, then, to make your design a real work of art. Let the construction of your letters, their arrangement, the border, accuracy of each line and curve, the appearance as a whole convey to those who see the work, the import of the message, even before they read the words.

Put your whole heart and soul into your work.

Do not force yourself into the harness if "in no mood" or "out of sorts." Such unpleasant moods will pass.

Gothic letters are always most appropriate for work of this kind. A large capital as a beginning for the words "Whereas" or "At a meeting" may be executed in Uncial, as also the capitals of the name of the person to be honored. But do not let the name or any word of the text appear in Gothic or Uncial capitals entirely. It is illegible. Capitals only may be used when Roman letters are employed. In that case use none but the Roman letters throughout the work. Enough variety can be given by using different sizes, lower case and capital letters.

The letters composing the name and all capitals may be embellished with ornaments in color and gold. The employment of ornamental characters and also of elaborate adornment is very appropriate for this class of pen- and brush work, but the arrangement should be very carefully studied out before the ink work is attempted.

A pleasing effect is attained by leaving a wide margin to the left of the body of lettering and partly filling this space with ornamental filigree- or scroll-work, flowing out from the first letter or the capitals of the name.

Attention should here be called to a gross mistake frequently encountered in designs for resolutions on such solemn subjects as the death of a respected citizen. The arrangement of lettering on documents of this character should be dignified and quiet. Frivolous looking letters with many flourishes that seem to be hopping and dancing all over the sheet must be avoided.

An elaborate border is sometimes added to memorials, resolutions and testimonials, but when the work is intended for framing, a plain line would, in most cases, be more suitable.

Designs for these documents should always first be carefully sketched in lead pencil, then the effect studied, and errors corrected. After this it should be traced and carried over to the parchment or drawing paper for inking in.

Much more than ordinary care must be exercised when working out memorials, &c., with ink, to avoid mistakes from overdrawn lines, and accidents such as ink spots and rubbing. These cannot easily be entirely eliminated; erasures are apt to be noticed.

See example on plate 35.

Plate XXXIV

Adapting Ideas

Tile Design Reconstructed

for Border

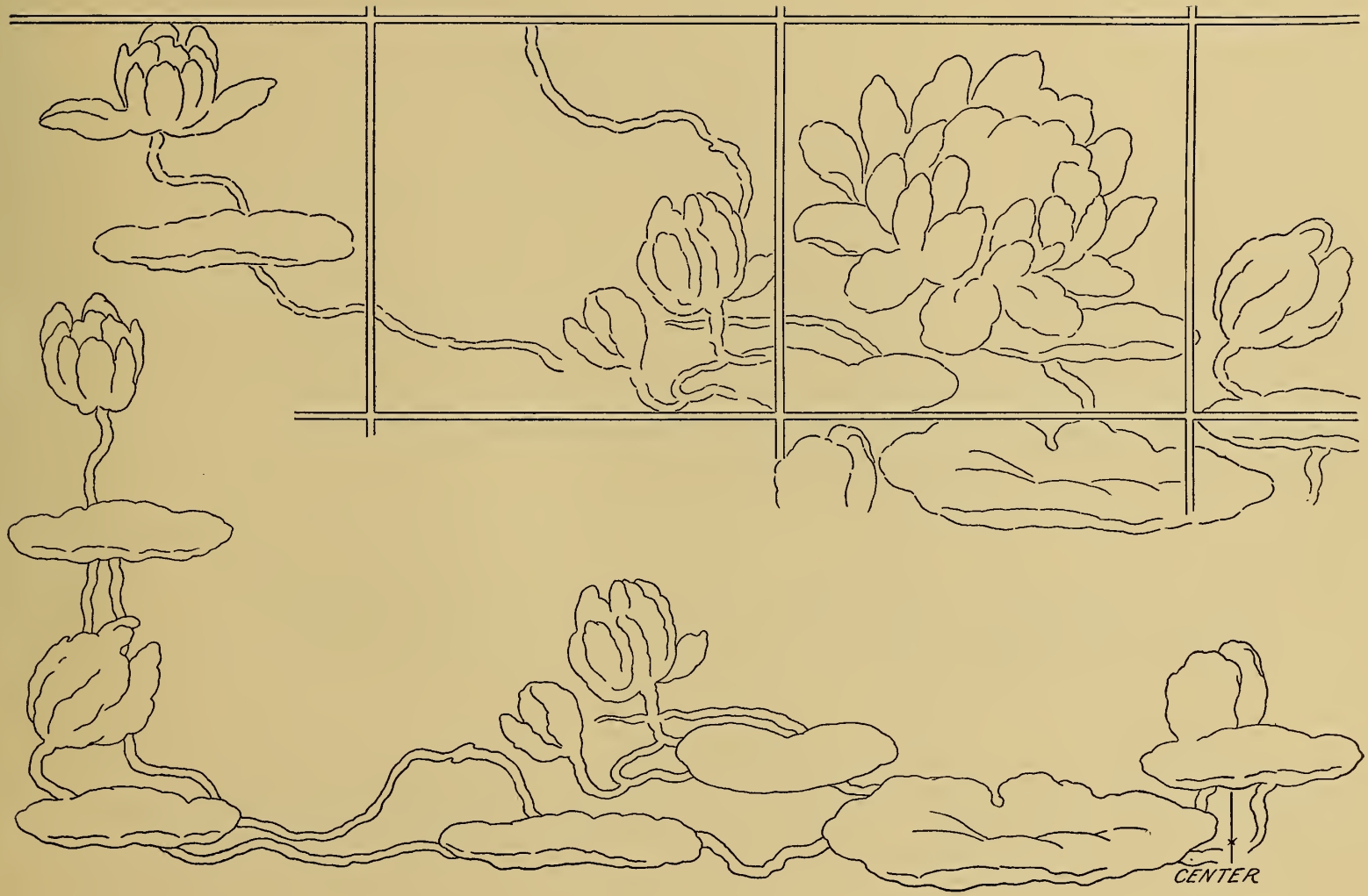

CENTER

Plate XXXV

Example of Engrossed
Resolution

Whereas

Theodore Roosevelt

for many years an honored

Resident of Oyster Bay

CONCLUSION

The conviction of having an inexhaustible wealth of ideas, the certainty that forms and compositions are slumbering in his mind, is the artist's pride.

This feeling is not one of self-esteem merely, it is a kind of art consciousness.

The architect studies out and draws his plans for a handsome villa, or a great public building, and, with his mind's eye sees the structure rise before him—the landscape gardener enhances the beauties of nature by the application of his art, and a knowledge gathered from experience.

The letterer, if he be an artist, having ability of composition and arrangement, and a knowledge of decorative effects, brings to the fullest force of expression the many beautiful letter forms and graceful lines, and gathers them into a harmonious whole. Under the inspiration of the moment and with the enthusiasm that is inseparable from him who loves his fascinating work for beauty's sake, the true artist in this line likewise creates a thing of beauty, which is an expression of his inner life.

But, unlike the architect or gardener, the artist of lettering needs no expensive apparatus to execute his ideas; he has all the necessary implements for his work right at his fingers' ends.

If others do not appreciate the merits of your work, be not discouraged. There may be days when your ideals seem to be vanishing, owing to lack of understanding and appreciation on the part of those in a position to dictate.

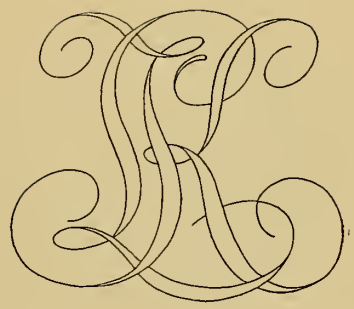
The sketch conceived in a happy moment and executed with enthusiasm will ever be your best work. Cherish your ideals and the love for your work in your inmost heart. The laws of beauty must eventually prevail, and sooner or later the high quality of your work will meet with due recognition.

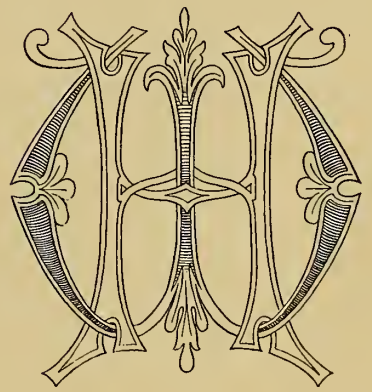
Freehand Designs of

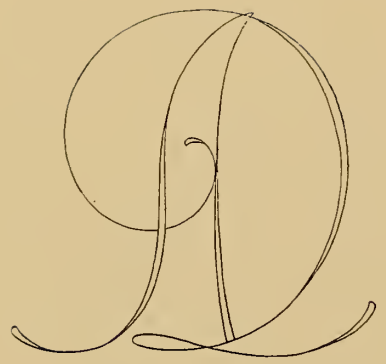
Initials, Monograms and Cyphers

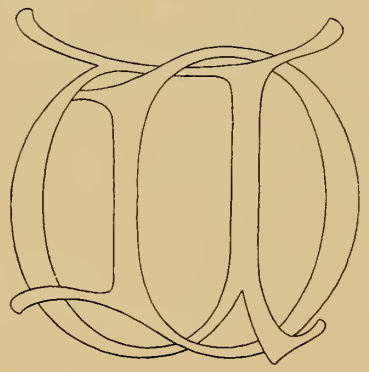
of various styles and ornamentation

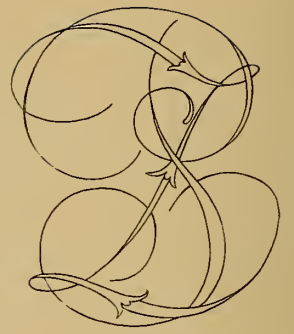
Also Borders and Book Cover Designs

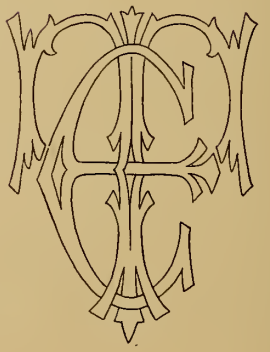


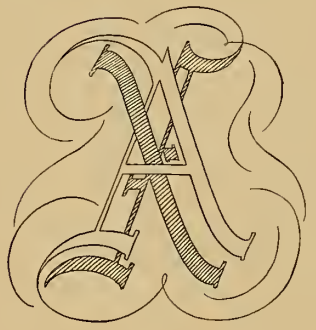


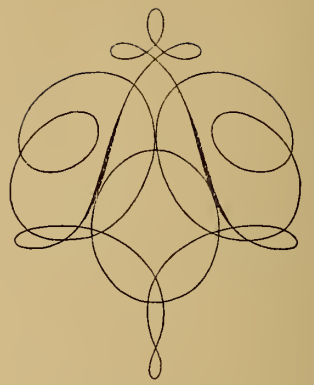


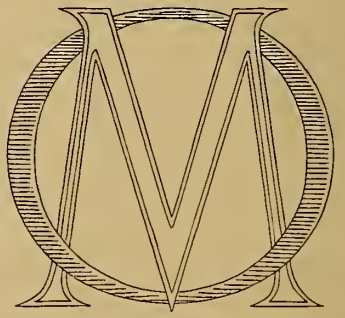












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The Standard Pens of the World

FOR DRAUGHTING; Nos. 170, 290, 291, 303, 659, 850, 1000
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ALFRED FIELD & CO., Sole Agents
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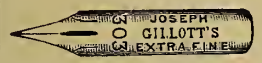

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Building Construction and Superintendence, Kidder.
Part I, Mason Work $6.00
Part II, Carpentry - 4.00
Part III, Roof Trusses 3.00
Details Building Construction, Martin. 2nd Edition - 2.00
Architectural Drawing, Tuthill - - - 2.50
Architectural Perspective, Wright - - - 3.00

Detailed Working Drawings, 5 Orders of Architecture, Ball. Folio - - 4.00
Building Details, Snyder. 6 Parts. Price per Part 2.50

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